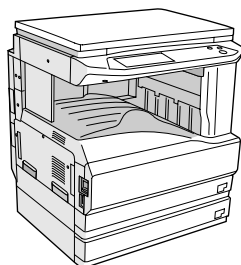
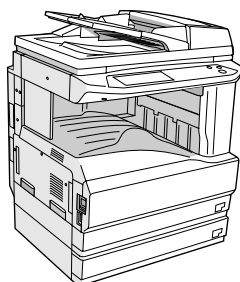


# SHARP SERVICE MANUAL

CODE: 00ZARM277/A1E



AR-M236/M276



AR-M237/M277

## DIGITAL MULTIFUNCTIONAL SYSTEM

## AR-M236/M276 MODEL AR-M237/M277

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Parts marked with “△” are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

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# [1] NOTE FOR SERVICING

This Service Manual uses some photographs to assure safe operation.  
This Service Manual uses some photographs to assure safe operation.  
Please understand the meanings of photographs before servicing.

- ⚠ **WARNING:** If this WARNING should be ignored, a serious danger to life or a serious injury would be resulted.
- ⚠ **CAUTION:** If this CAUTION should be ignored, an injury or a damage to properties would be resulted.

## 1. Warning for servicing

- 1) Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements.  
Avoid complex wiring, which may lead to a fire or an electric shock.  
It may cause a fire or an electric shock.
- 2) If there is any abnormality such as a smoke or an abnormal smell, interrupt the job and disconnect the power plug.  
It may cause a fire or an electric shock.
- 3) Be sure to connect the grounding wire. If an electric leakage occurs without grounding, a fire or an electric shock may be the result.  
To protect the machine and the power unit from lightening, grounding must be made.
- 4) When connecting the grounding wire, never connect it to the following points.  
It may cause an explosion, a fire or an electric shock.
  - Gas tube
  - Lightning conductor
  - A water pipe or a water faucet, which is not recognized as a grounding object by the authorities.
  - Grounding wire for telephone line
- 5) Do not damage, brake, or work the power cord.  
Do not put heavy objects on the power cable. Do not bend it forcibly or do not pull it extremely.  
It may cause a fire or an electric shock.
- 6) Keep the power cable away from a heat source.  
Do not insert the power plug with dust on it into a power outlet.  
It may cause a fire or an electric shock.
- 7) Do not put a receptacle with water in it or a metal piece which may drop inside the machine.  
It may cause a fire or an electric shock.
- 8) With wet or oily hands, do not touch the power plug, do not insert the telephone line jack, do not operate the machine, or do not perform servicing.  
It may cause an electric shock.

## 2. Precautions for servicing

- 1) When servicing, disconnect the power plug, the printer cable, the network cable, and the telephone line from the machine, except when performing the communication test, etc.  
It may cause an injury or an electric shock.
- 2) There is a high temperature area inside the machine. Use an extreme care when servicing.  
It may cause a burn.
- 3) There is a high voltage section inside the machine which may cause an electric shock. Be careful when servicing.
- 4) Do not disassemble the laser unit. Do not insert a reflective material such as a screwdriver in the laser beam path.  
It may damage eyes by reflection of laser beams.
- 5) When servicing with the machine operating, be careful not to squeeze your hands by the chain, the belt, the gear, and other driving sections.

- 6) Do not leave the machine with the cabinet disassembled.  
Do not allow any person other than a serviceman to touch inside the machine. It may cause an electric shock, a burn, or an injury.
- 7) When servicing, do not breathe toner, developer, and ink excessively. Do not get them in the eyes.  
If toner, developer, or ink enters your eyes, wash it away with water immediately, and consult a doctor if necessary.
- 8) The machine has got sharp edges inside. Be careful not to damage fingers when servicing.
- 9) Do not throw toner or a toner cartridge in a fire. Otherwise, toner may pop and burn you.
- 10) When replacing the lithium battery of the PWB, use a specified one only.  
If a battery of different specification is used, it may be broken, causing breakdown or malfunction of the machine.
- 11) When carrying a unit with PWB or electronic parts installed to it, be sure to put it in an anti-static-electricity bag.  
It may cause a breakdown or malfunctions.

## 3. Note for installing site

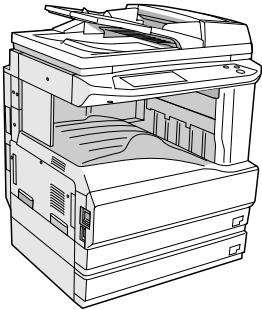
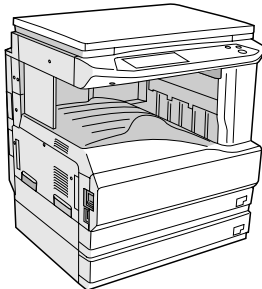
Do not install the machine at the following sites.

- 1) Place of high temperature, high humidity, low temperature, low humidity, place under an extreme change in temperature and humidity.  
Paper may get damp and form dew inside the machine, causing paper jam or copy dirt.  
For operating and storing conditions, refer to the specifications described later.
- 2) Place of much vibrations  
It may cause a breakdown.
- 3) Poorly ventilated place  
An electro-static type copier will produce ozone inside it.  
The quantity of ozone produced is designed to a low level so as not to affect human bodies. However, continuous use of such a machine may produce a smell of ozone. Install the machine in a well ventilated place, and ventilate occasionally.
- 4) Place of direct sunlight.  
Plastic parts and ink may be deformed, discolored, or may undergo qualitative change.  
It may cause a breakdown or copy dirt.
- 5) Place which is full of organic gases such as ammonium  
The organic photoconductor (OPC) drum used in the machine may undergo qualitative change due to organic gases such as ammonium.  
Installation of this machine near a diazo-type copier may result in dirt copy.
- 6) Place of much dust  
When dusts enter the machine, it may cause a breakdown or copy dirt.
- 7) Place near a wall  
Some machine require intake and exhaust of air.  
If intake and exhaust of air are not properly performed, copy dirt or a breakdown may be resulted.
- 8) Unstable or slant surface  
If the machine drops or fall down, it may cause an injury or a breakdown.  
If there are optional paper desk and the copier desk specified, it is recommendable to use them.  
When using the optional desk, be sure to fix the adjuster and lock the casters.

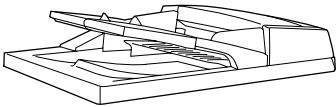

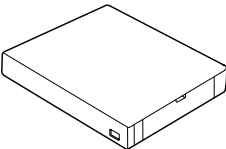
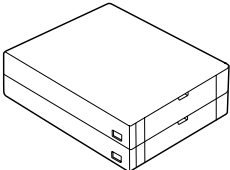
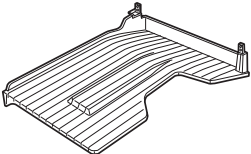
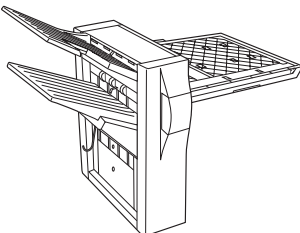
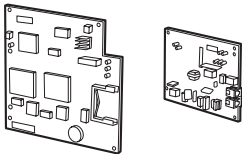
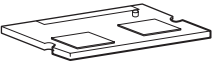
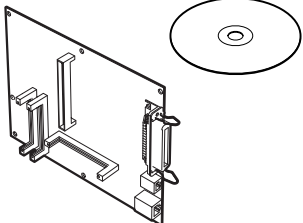
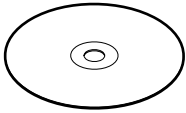
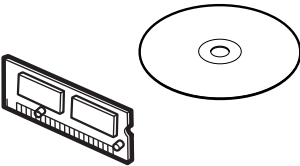
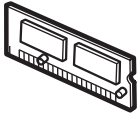
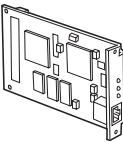
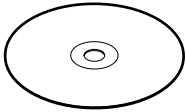
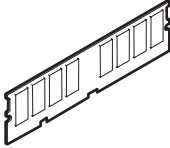
## [2] CONFIGURATION

### 1. Product Line and options

#### A. Line of machines

| Model name  | Composition                 | Model name  | Composition                 |
|---|-----------------------------|---|-----------------------------|
| AR-M277/M237 (For SEC/SECL)   | Copier/Printer (SPLC) model | AR-M276/M236  | Copier/Printer (SPLC) model |
|  |                             |  |                             |

#### B. Line of options

|   |   |  |   |
|---|---|--|---|
|    |    |    |    |
| AR-RP7<br>Reversing single pass feeder  | AR-VR6<br>Platen cover (OC)   | AR-D21<br>500-sheet paper feed unit  | AR-D22<br>2X500-sheet paper feed unit   |
|  |   |  |  |
| AR-TR3<br>Job separator tray kit  | AR-FN5N<br>Finisher   | AR-FX7<br>Facsimile expansion kit  | AR-MM9<br>8MB FAX memory  |
|  |  |  |  |
| AR-P17<br>Printer expansion kit   | AR-PK1/N<br>PS3 expansion kit   | AR-PF1<br>Bar code font kit  | AR-PF2<br>Flash ROM kit   |
|  |  |  |   |
| AR-NC5J<br>Print server card  | AR-NS2<br>Network scanner expansion kit   | AR-SM5<br>256MB expansion memory board<br>AR-SM6<br>512MB expansion memory board     |   |



## C. Combination of options list

○: Installable

×: Not available

| Section                                 | Option                        |          | Main unit Model |              | Note   |
|---|-------------------------------|----------|-----------------|--------------|--|
|   | Item                          | Model    | AR-M237/M277    | AR-M236/M276 |  |
| Automatic document feeder and OC        | Reversing single pass feeder  | AR-RP7   | Standard        | ○            |  |
|   | Platen cover (OC)             | AR-VR6   | ×               | ○            |  |
| Paper feed system                       | 500-sheet paper feed unit     | AR-D21   | ○               | ○            | 500 x 1 (80g/m <sup>2</sup> )  |
|   | 2X500-sheet paper feed unit   | AR-D22   | ○               | ○            | 500 x 2 (80g/m <sup>2</sup> )  |
| Paper exit system                       | Job separator tray kit        | AR-TR3   | ○               | ○            |  |
|   | Finisher                      | AR-FN5N  | ○               | ○            |  |
|   | Staple cartridge              | AR-SC1   | ○               | ○            | For AR-FN5N  |
| FAX system                              | Facsimile expansion kit       | AR-FX7   | ○               | ○            | FAX board option available only for SEC/SECL/SEEG/SUK/SCA/SEIS/SEES/SEB/SEN/SEF/SRS/STCL/SRSSC/Philippines/SRH/SBI/SMEF/South Africa/Taiwan/SOCC |
|   | 8MB FAX memory                | AR-MM9   | ○               | ○            |  |
|   | PC-FAX (only sending)         | —        | ○               | ○            |  |
| Printer system                          | Printer expansion kit         | AR-P17   | ○               | ○            | The AR-P17 must be installed.  |
|   | Print server card             | AR-NC5J  | ○               | ○            |  |
|   | Bar code font kit             | AR-PF1   | ○               | ○            |  |
|   | Flash ROM kit                 | AR-PF2   | ○               | ○            |  |
|   | PS3 expansion kit             | AR-PK1/N | ○               | ○            |  |
| Memory board<br>(From July 2003 onward) | 256MB expansion memory board  | AR-SM5   | ○               | ○            |  |
|   | 512MB expansion memory board  | AR-SM6   | ○               | ○            |  |
| Software                                | Network scanner expansion kit | AR-NS2   | ○               | ○            | The memory of 128MB must be added.   |

For details of the options, refer to the Service Manual of each option.

## [3] SPECIFICATIONS

This model is designed as an SPLC printer, and can be extended for use as a PCL6/PS3/NC/scanner by options. For details, refer to the Service Manual of the AR-P11/AR-PK1/AR-NC5J/AR-NS2.

### 1. Basic specifications

#### (1) Type

|              |              |
|--------------|--------------|
| Machine Type | Desktop type |
|--------------|--------------|

#### (2) External dimensions

|                         |  |
|-------------------------|--|
| Floor to OC top surface | 623 (W) x 609.5 (D) x 673 (H)mm<br>(24.5 (W) x 24 (D) x 26.5 (H) inch)   |
| Floor to Glass surface  | 623 (W) x 609.5 (D) x 640.5 (H)mm<br>(24.5 (W) x 24 (D) x 25.2 (H) inch) |
| Floor to RSPF surface   | 623 (W) x 609.5 (D) x 785.5 (H)mm<br>(24.5 (W) x 24 (D) x 30.9 (H) inch) |

#### (3) Weight

|              |  |
|--------------|--|
| AR-M276/M236 | 41.8 kg (including DV), 39.8 kg (excluding DV)<br>(92 lbs. (including DV), 87.7 lbs. (excluding DV))     |
| AR-M277/M237 | 49.3 kg (including DV), 47.3 kg (excluding DV)<br>(108.6 lbs. (including DV), 104.2 lbs. (excluding DV)) |

#### (4) Power supply

|              |  |
|--------------|--|
| Voltage      | 100V/110V/120V/127V/230V (common with 200V)/<br>240V |
| Frequency    | 50/60Hz common                                       |
| Power switch | One power source                                     |

## 2. Operation specifications

### A. Common operation

#### (1) Warm up time

|                   |               |
|-------------------|---------------|
| Warm-up time      | Under 23 sec. |
| Pre-heat function | Yes           |

#### (2) Jam recovery time

|  |
|--|
| About 10sec (Leaving the machine for 60 sec after opening the door, standard condition, polygon stop.) |
|--|

### B. Copy mode

#### (1) Document size

|                    |                      |
|--------------------|----------------------|
| Max. document size | A3 paper (11" x 17") |
|--------------------|----------------------|

#### (2) Picture quality mode

| Picture quality mode | Density adjustment step | Toner save mode |
|----------------------|-------------------------|-----------------|
| Text Auto mode       | 1 step                  | Selectable      |
| Text mode            | 5 steps                 | Selectable      |
| Text/Photo mode      | 5 steps                 | Selectable      |
| Photo mode           | 5 steps                 | —               |
| Super Photo mode     | 5 steps                 | —               |

### (3) Copy magnification ratio

#### • Normal mode

| Copy magnification ratio        | Magnification range/fixed magnification  |
|---------------------------------|--|
| Zoom width                      | 25 to 400% (50 to 200% for RSPF)   |
| Fixed magnification mode        | AB Series: 25, 50, 70, 81, 86, 100, 115, 122, 141, 200, 400%<br>5R+5E<br>(50, 70, 81, 86, 100, 115, 122, 141 and 200% for RSPF)<br>Inch Series: 25, 50, 64, 77, 100, 121, 129, 200, 400%<br>4R+4E<br>(50, 64, 77, 100, 121, 129 and 200% for RSPF) |
| Independent magnification width | 25 to 400% for horizontal/vertical<br>(50 to 200% for RSPF)  |

#### • 1200 dpi mode

| Copy magnification ratio        | Magnification range/fixed magnification  |
|---------------------------------|--|
| Zoom width                      | 50 to 200% (50 to 141% for RSPF)   |
| Fixed magnification mode        | AB Series: 50, 70, 81, 86, 100, 115, 122, 141, 200%<br>4R+4E<br>(50, 70, 81, 86, 100, 115, 122 and 141% for RSPF)<br>Inch Series: 50, 64, 77, 100, 121, 129, 200%<br>3R+3E<br>(50, 64, 77, 100, 121 and 129% for RSPF) |
| Independent magnification width | 50 to 200% for horizontal/vertical (50 to 141% for RSPF)   |

|                         |  |
|-------------------------|--|
| Magnification precision | Normal copy: 100%±1.0%<br>Enlargement copy: Set magnification ±1.0%<br>Reduction copy: Set magnification ±1.0% |
|-------------------------|--|

### (4) Job speed

#### a. First Copy Time

|        |   |
|--------|---|
| Normal | Less than 4.8 sec. (when the single copy) |
|--------|---|

\* When paper of A4/Letter is fed from the upper cassette of the machine and discharged.

#### b. Copy speed

| Mode              |            | AR-M276/M277 | AR-M236/M237 |
|-------------------|------------|--------------|--------------|
| 1 scan multi copy | (600 dpi)  | 27 cpm       | 23 cpm       |
|                   | (1200 dpi) | 13.5 cpm     | 13.5 cpm     |

\* When A4/Letter

#### b. Multi copy speed (sheets/minute)

| Document Size                  | AR-M276/M277 |          | AR-M236/M237 |          |
|--------------------------------|--------------|----------|--------------|----------|
|                                | 600 dpi      | 1200 dpi | 600 dpi      | 1200 dpi |
| A3                             | 15           | 7.5      | 12           | 7.5      |
| B4                             | 17           | 8.5      | 14           | 8.5      |
| A4 (Horizontal feed)           | 27           | 13.5     | 23           | 13.5     |
| A4 (Vertical feed)             | 18           | 9        | 16           | 9        |
| B5 (Horizontal feed)           | 27           | 13.5     | 23           | 13.5     |
| B5 (Vertical feed)             | 21           | 10.5     | 18           | 10.5     |
| 11" x 17"                      | 14           | 7.5      | 12           | 7.5      |
| 8-1/2" x 14"                   | 16           | 8        | 13           | 8        |
| 8-1/2" x 13"                   | 17           | 8.5      | 14           | 8.5      |
| 8-1/2" x 11" (Horizontal feed) | 27           | 13.5     | 23           | 13.5     |
| 8-1/2" x 11" (Vertical feed)   | 18           | 9        | 16           | 9        |
| A5/INV                         | 27           | 13.5     | 23           | 13.5     |

\* The slowest speed is listed in enlargement/reduction copy.

\* Single-side copy

### (5) Max. multi-copy (print) quantity

|            |
|------------|
| 999 sheets |
|------------|

### (6) Picture quality

#### a. Image process

| Picture quality mode | Image process (Software)                                 |
|----------------------|--|
| Text Auto mode       | • 2 gradations<br>• Area separation<br>• Error diffusion |
| Text mode            |  |
| Text/Photo mode      |  |
| Photo mode           | Dither   |
| Super Photo mode     |  |

#### b. Toner save mode

|                       |     |
|-----------------------|-----|
| Toner save percentage | 10% |
|-----------------------|-----|

#### c. Zoom method

|                         |   |
|-------------------------|---|
| Main scanning direction | Performed through image processing                        |
| Sub scanning direction  | Performed by image processing and changing scanning speed |

#### d. Resolution

##### • Read

|                         |                        |
|-------------------------|------------------------|
| Main scanning direction | Sub scanning direction |
| 400 dpi                 | 400 dpi                |

##### • Write

| Main scanning direction |                    | Sub scanning direction |                    |
|-------------------------|--------------------|------------------------|--------------------|
| Basic resolution        | Virtual resolution | Basic resolution       | Virtual resolution |
| 600 dpi                 | 1200 dpi           | 600 dpi                | 1200 dpi           |

| Copy magnification ratio | Position    |             |
|--------------------------|-------------|-------------|
|                          | Center      | Corners     |
| 25% to 49%               | —           | —           |
| 50% to 69%               | 3.2 line/mm | 2.8 line/mm |
| 70% to 94%               | 3.6 line/mm | 3.2 line/mm |
| 95% to 105%              | 5.0 line/mm | 4.5 line/mm |
| 106% to 141%             | 5.0 line/mm | 4.5 line/mm |
| 142% to 400%             | 5.0 line/mm | 4.5 line/mm |

#### e. Gradation

|       |                |
|-------|----------------|
| Read  | 256 gradations |
| Write | 2 gradations   |

## 3. Engine specifications

### A. Operation and display section

|                  |                      |
|------------------|----------------------|
| Display unit     | Touch panel          |
| Operation system | Button switch system |

### B. Paper feed, transport, paper exit section

#### (1) Paper feed ability

|                     |   |
|---------------------|---|
| Paper feed section  | 2 cassettes + multi manual feed   |
| Paper feed capacity | 500 x 2 + 100 (80 g/m <sup>2</sup> )  |
| Paper feed size     | AB Series: A3 to A6R<br>Inch Series: 11"x17" to 8.5"x5.5"   |
| Remaining detection | Cassette section: empty detection only available<br>Manual paper feed section: empty detection only available |

#### • Details of paper feed section

|                                |  |
|--------------------------------|--|
| Paper feed capacity            | 500 (80 g/m <sup>2</sup> )   |
| Paper weight                   | 56 to 105 g/m <sup>2</sup> (15 to 28 lbs)  |
| Paper feed size                | A3/B4/A4/A4R/B5/B5R/A5/16K/16KR/8K<br>8.5x11/8.5x14/11x17/8.5x13/8.5x11R/8.5x5.5                       |
| Paper kind                     | Standard paper (56 to 80 g/m <sup>2</sup> ), normal paper (80 to 105 g/m <sup>2</sup> ), special paper |
| Special paper                  | Recycle paper  |
| Paper size selection           | User operation (Touch panel operation)   |
| Cassette attachment/detachment | Yes  |
| Remarks                        | A5, 8.5 x 5.5 (only for tray 1)<br>B5 is not applicable to tray 2.                                     |

#### • Manual feed section

|                |  |
|----------------|--|
| Paper weight   | 52 to 200 g/m <sup>2</sup> (14 to 54 lbs)  |
| Paper Size     | AB Series: A3 to A6R<br>Inch Series: 11"x17" to 8.5"x5.5"  |
| Paper kind     | Multi feed: Standard paper (52 to 80 g/m <sup>2</sup> ), special paper (Recycle paper/OHP/label paper/postcard/envelope), thick paper (max. 200 g/m <sup>2</sup> )<br>Single feed: Standard paper (52 to 128 g/m <sup>2</sup> ), special paper (Recycle paper/OHP/label paper/postcard/envelope), thick paper (max. 200 g/m <sup>2</sup> ) |
| Size detection | Yes  |
| Guide display  | A3/A4,11,B4/B5,8.5,A4R/A5,B5R,A5R,5.5  |

\* When poor image quality is resulted by the use of OHP sheet, adjust with SIM 44-34.

### (2) Finishing ability

|                    |          |  |
|--------------------|----------|--|
| Paper exit section |          | Paper exit tray (1 tray)   |
| Paper exit face    |          | Face down  |
| Capacity           |          | 500 sheets (A3, B4, 11 x 17, 8.5 x 14, 8.5 x 13: 300 sheets)   |
| Full detection     |          | No   |
| Paper detection    |          | Yes  |
| Finishing          |          | Yes  |
| E-sort capacity    | 600 dpi  | 90 sheets (Max. 2970 sheets) of A4 standard documents (Sharp A4 standard document Test Chart B (6%)) |
|                    | 1200 dpi | 16 sheets (Max. 528 sheets) of A4 standard documents (Sharp A4 standard document Test Chart B (6%))  |
| Offset function    |          | Depending on the shifter.  |
| Stapling           |          | Available when the finisher is installed.  |

### (3) Job separator exit tray (AR-TR3)

#### a. Condition

|   |
|---|
| In case of Optional function (printer, FAX) is set up as MFD. |
|---|

#### b. Simultaneous wrapping in kit

|                     |
|---------------------|
| Job separator tray  |
| Setting manual book |

#### c. Simultaneous wrapping

|                     |
|---------------------|
| Setting manual book |
|---------------------|

#### d. Function

|   |
|---|
| This exit tray is set up above main exit tray, and can separate copier exit, printer exit and FAX exit. |
|---|

#### e. Many of tray

|  |
|--|
| 1 (this tray can not set up more than 2) |
|--|

**f. Separator system**

|                            |
|----------------------------|
| by control of main machine |
|----------------------------|

**g. Exit paper size**

|  |             |                      |
|--|-------------|----------------------|
| Upper exit tray (Job separator tray)     | AB system   | A3 to A6             |
|  | Inch system | 11 x 17 to 8.5 x 5.5 |
| Lower exit tray (Main machine exit tray) | AB system   | A3 to A6             |
|  | Inch system | 11 x 17 to 8.5 x 5.5 |

**h. Exit paper weight**

|   |
|---|
| 52 to 128g/m <sup>2</sup> (14 to 34.1lbs) |
|---|

**i. Paper pass**

|                            |
|----------------------------|
| center (same as main unit) |
|----------------------------|

**j. Exit area/finishing**

|  |           |
|--|-----------|
| Upper exit tray (Job separator tray)     | Face down |
| Lower exit tray (main machine exit tray) | Face down |

**k. Power supply**

|                   |                            |
|-------------------|----------------------------|
| Power supply      | DC 24V (from main machine) |
| Power consumption | 5.6W                       |

**l. Method of movement**

|   |
|---|
| with original motor (not with main machine) |
|---|

**m. Machine weight**

|        |
|--------|
| 0.6 kg |
|--------|

**n. Exit capacity**

|  |                |
|--|----------------|
| Upper exit tray (Job separator)          | 100 sheets     |
| Lower exit tray (main machine exit tray) | 500 sheets (*) |

\* 300 sheets except for A4/LT

**o. Tray full detector**

|  |     |
|--|-----|
| Upper exit tray (Job separator)          | Yes |
| Lower exit tray (main machine exit tray) | Yes |

**p. Concept of function**

|  |   |
|--|---|
| Upper exit tray (Job separator)          | Copy/FAX/Printer (This setting can be done by users.) |
| Lower exit tray (main machine exit tray) | Copy/Printer/FAX (This setting can be done by users.) |

**q. Main color of cabinet**

|              |
|--------------|
| Frosty white |
|--------------|

**r. Setting**

|                    |
|--------------------|
| to be easy setting |
|--------------------|

**C. Optical (Image scanning) section****(1) Type**

|                          |
|--------------------------|
| Flat-bed type/monochrome |
|--------------------------|

**(2) Document reference position**

|                     |
|---------------------|
| Rear left reference |
|---------------------|

**(3) Resolution**

|                         |                        |
|-------------------------|------------------------|
| Main scanning direction | Sub scanning direction |
| 400 dpi                 | 400 dpi                |

**(4) Gradation**

|                        |
|------------------------|
| 256 gradations (8-bit) |
|------------------------|

**(5) Original size/Scanning area****a. Max. original size**

|                      |
|----------------------|
| A3 paper (11" x 17") |
|----------------------|

**(6) Scanning speed**

|   |
|---|
| 122mm/sec (600 dpi: magnification ratio 100%) |
| 61mm/sec (1200 dpi: magnification ratio 100%) |

**(7) Light source (lamp)**

|               |        |
|---------------|--------|
| Type          | Xenon  |
| Drive voltage | 1.5 kV |

**(8) Read sensor**

|      |   |
|------|---|
| Type | Reduction optical system image sensor (CCD) |
|      | Monochrome                                  |

**D. Scanner (exposure) section****(1) Resolution**

|                         |                        |
|-------------------------|------------------------|
| Main scanning direction | Sub scanning direction |
| 600 dpi                 | 600 dpi                |

**(2) Gradation**

|              |
|--------------|
| 2 gradations |
|--------------|

**(3) Laser unit specifications**

|                   |                                  |
|-------------------|----------------------------------|
| r.p.m.            | 28,800 rpm                       |
| Mirror surfaces   | 6 faces                          |
| Laser power       | 0.4mW/600dpi, 0.2mW/1200dpi      |
| Laser beam size   | 60μ (Main scan) x 70μ (Sub scan) |
| Laser wave length | 785nm                            |

**E. Image process section**

|                 |   |   |
|-----------------|---|---|
| Imaging speed   |   | 600 dpi : 122 mm/sec.<br>1200 dpi : 61 mm/sec.        |
| Photo conductor | Type  | OPC drum (dia. 30mm)                                  |
|                 | LIFE  | 75,000 sheets   |
| Toner           | Type  | Developer (Black)                                     |
|                 | LIFE  | 25,000 sheets (Toner, life: 25k, Developer life: 75k) |
| Charge          | System                                      | (-) DC scorotron (saw tooth)                          |
|                 | Voltage                                     | 560μA constant electric current                       |
| Transfer        | System                                      | Transfer roller                                       |
|                 | Voltage                                     | 18μA (electric current)                               |
| Exposure        | Xenon lamp                                  |   |
| Developing      | Dry, 2-component magnetic brush development |   |
| Separation      | (-) DC scorotron                            |   |
| Discharge       | —   |   |
| Cleaning        | Blade                                       |   |

**F. Fusing**

|                    |   |              |
|--------------------|---|--------------|
| Type               | Heat roller                                   |              |
| Lamp               | Type  | Halogen lamp |
|                    | Voltage                                       | 100V         |
|                    | Power consumption                             | 1000W        |
| Fusing temperature | 185° (600 dpi)                                |              |
|                    | 160° (1200 dpi)                               |              |
| Heat roller        | Teflon coated roller                          |              |
| Pressure roller    | Silicone rubber roller with re-engerized cube |              |
| Separation system  | Natural separation (with pawl)                |              |

**G. Drive**

|               |                    |
|---------------|--------------------|
| Drive section | Motor              |
| Main motor    | DC brushless motor |

#### 4. Additional functions, copy functions, and expanded functions

|   |   |
|---|---|
| APS   | Yes (No for APS by flow scan with the RSPF)   |
| AMS   | Yes (No for AMS by flow scan with the RSPF)   |
| Stream feeding mode                                   | Yes   |
| Job build function                                    | Yes (Copy/Scan)   |
| Auto tray switching                                   | Yes (No for manual paper feed)  |
| Memory copy (600 dpi)                                 | Yes (1 page memory provided as standard)  |
| Memory copy (1200 dpi)                                | Yes (1 page memory provided as standard)  |
| Rotation copy   | Yes   |
| E-sort  | Yes   |
| XY zoom   | Yes<br>When the OC is used: Landscape/Portrait 25 – 400% (50 – 200% for 1200 dpi)<br>When the RSPF is used: Landscape/Portrait 50 – 200% (50 – 141% for 1200 dpi) |
| 1 set 2 copy  | Yes (No for enlargement)  |
| Binding margin  | Yes<br>Default AB series: 0 – 20 mm (Unit of 1 mm)<br>Inch series: 0 – 1 inch (Unit of 1/8 inch)  |
| Edge erase  | Yes<br>Default AB series: 0 – 20 mm (Unit of 1 mm)<br>Inch series: 0 – 1 inch (Unit of 1/8 inch)  |
| Center frame erase                                    | Yes<br>Default AB series: 0 – 20 mm (Unit of 1 mm)<br>Inch series: 0 – 1 inch (Unit of 1/8 inch)  |
| Booklet copy  | Yes (Printing only)   |
| White/black reversion                                 | Yes<br>Whole surface only (Can be inhibited with the simulation.)   |
| 2 in 1/4 in 1   | Yes   |
| Sorter  | Yes<br>Offset function (shifter or finisher) required   |
| Mix paper feed  | Yes (Only when this function is set)  |
| Preheating  | Yes (Conditions are set with the key operator program.)   |
| Auto power shut off function                          | Yes (Conditions are set with the key operator program.)   |
| Message display                                       | Yes   |
| Key operator program                                  | Yes   |
| Printer status monitor/Printer administration utility | Yes (A PCL printer board is required (TCP/IP only). To use another protocol, an NIC card is required.)  |
| Wireless LAN support                                  | Yes (A 3rd party part is recommended.)  |
| Coin vendor support                                   | Yes (Option only for the models for dealers)  |
| Auditor support                                       | Yes   |
| Duplex  | Yes (Standard)  |
| Total counter   | Yes   |
| Toner save  | Yes   |
| Department management                                 | Yes (100 departments)   |
| Job registration/call                                 | Yes (10 jobs)   |
| Cover paper   | Yes (Insertion and stapling must be allowed from manual feed.)  |
| OHP insert paper                                      | Yes (Only printer function)   |

|                           |   |
|---------------------------|---|
| Self print function       | Yes (The service simulations in the machine and the key operation list are printed.)  |
| Built-in clock            | Yes   |
| Paper exit tray selection | (When the finisher is installed)<br>Machine: Copy/FAX/*Printer<br>Top tray: Copy/*FAX<br>Offset tray: Printer/*Copy<br><br>(When the job separator is installed)<br>Machine: *Copy/Printer/FAX<br>Job separator tray: Copy/*Printer/*FAX<br><br>* Default: (The above setup items for each paper exit tray can be changed by the user.) |
| 1 page memory             | 48MB  |

#### 5. Safety and environmental protection standards

##### (1) Safety and environmental protection standards

| Item                         |   |
|------------------------------|---|
| Environment acknowledgment   | USA: EnergyStar<br>Canada: ECP, EnergyStar<br>Germany: Blue angel conformity<br>Europe: EnergyStar<br>North Europe: Nordic swan   |
| Safety acknowledgement & EMI | USA: UL/FDA/FCC<br>Canada: cUL/FDA/FCC<br>Europe: CE/SEMKO/ITS GS<br>UK: CE/SEMKO/ITS GS<br>Australia: IEC60950 conformity/C-TICK<br>Taiwan: Taiwan EMI (Class B)/CNS conformity<br>Russia: GOST-R<br>Middle East, Africa: CE conformity/IEC60950 conformity/CISPR22 conformity<br>China: CCC<br>Others: ICube/NOM (Mexico)/FCC conformity/CISPR22 conformity/IS112/IS961-6.1/2 |

##### (2) Ozone level

|       |                                  |
|-------|----------------------------------|
| Ozone | Less than 0.02mg/m <sup>3</sup>  |
| Dust  | Less than 0.075mg/m <sup>3</sup> |

##### (3) Noise level

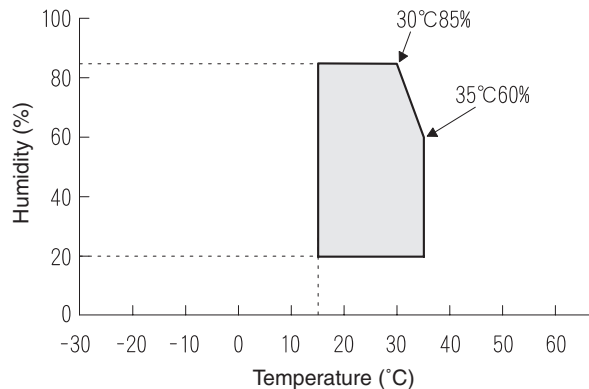
|            |                |
|------------|----------------|
| Operating  | Less than 63dB |
| On standby | Less than 40dB |

## 6. Environment conditions

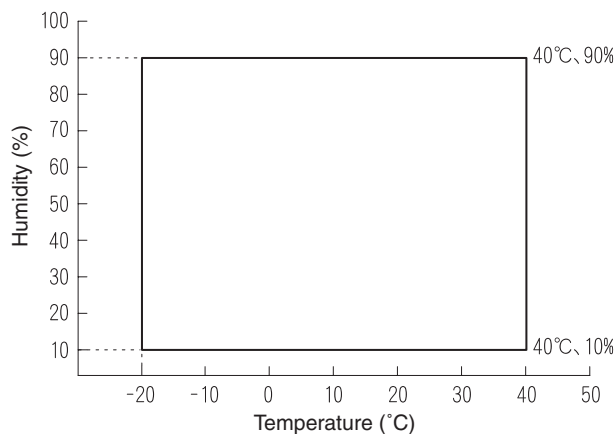
### (1) Space required

|                          |                        |
|--------------------------|------------------------|
| Folded multi manual feed | 628 (W) × 585.5 (D) mm |
| Open multi manual feed   | 894 (W) × 585.5 (D) mm |

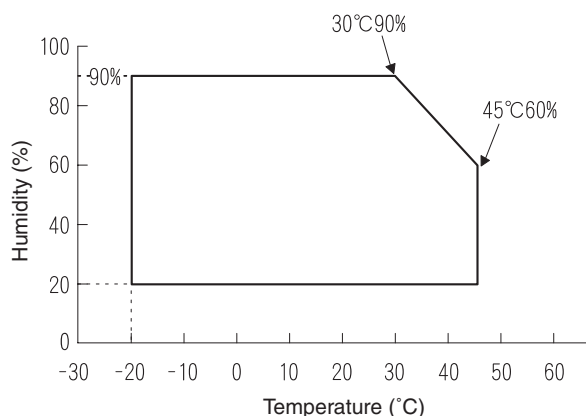
### (2) Operating ambient conditions



### (3) Ambient storage conditions



### (4) Ambient conditions for transporting



### (5) Atmospheric pressure

|                   |
|-------------------|
| 595 mmHg or above |
|-------------------|

### (6) Standard temperature and humidity

|             |            |
|-------------|------------|
| Temperature | 20 to 25°C |
| Humidity    | 65±5%RH    |

## 7. IMC board functions

|  |   |
|--|---|
| * Sort function (Electronic sort)      | 32MB (Copy: 16MB, Print: 16MB)<br>90 sheets (max. 1500 sheets) with A4 standard documents at 600dpi, 22 sheets (max. 726 sheets) with A4 standard documents at 1200dpi. Offset paper exit by the shifter function |
| * Group function                       | 32MB (Copy: 16MB, Print: 16MB)<br>90 sheets (max. 1500 sheets) with A4 standard documents at 600dpi, 22 sheets (max. 726 sheets) with A4 standard documents at 1200dpi. Offset paper exit by the shifter function |
| Rotation copy                          | If there is paper of the same size as the document size, the image is rotated and printed even though the paper is set in a different direction. (In some cases, enlargement rotation may not be executed.)       |
| 2 in 1/4 in 1                          | Two pages or four pages of documents are copied on one page of paper. Division can be made with slid lines or dotted lines (by user setup). (The solid line width is 8 lines)                                     |
| Edge erase                             | Images on the edges of the document are erased and copy is made. (Adjustable in the range of 0 – 20mm (0 – 1 inch).)  |
| Center erase                           | The center image of the set document is erased and copy is made. (Adjustable in the range of 0 – 20mm (0 – 1 inch).)  |
| Binding edge                           | Binding edge is provided on the left, right or the top of the set document.   |
| Compression memory for electronic sort | 32MB  |
| * Memory read capacity                 | 600dpi<br>32MB (Copy: 16MB, Print: 16MB)<br>90 sheets (Max. 1500 sheets) of A4 standard documents (Sharp A4 standard document Test Chart B (6%))  |
|  | 1200dpi<br>22 sheets (Max. 726 sheets) of A4 standard documents (Sharp A4 standard document Test Chart B (6%))  |
| Memory expansion                       | 2 slots for DIMM memory, Max. 512MB x 2 slots + 32MB (Expandable up to 1056MB)  |

Note: The number of sheets for the columns marked with “\*” is calculated supposing that the same quantity is assigned to the ROPM memory and the copy expansion memory.

## 8. “Sharp Printer Language with Compression (SPLC)” Printer function

### A. Basic specification

| Item                   | Detail   |
|------------------------|--|
| Print Speed            | 15ppm: 600dpi (including transfer from PC)<br>27ppm: ROPM (AR-M277/M276)<br>23ppm: ROPM (AR-M237/M236)                   |
| Resolution             | 600dpi   |
| Smoothing              | 1200dpi x 600dpi   |
| Toner Save Mode        | Standard   |
| Input tray             | Multi Bypass tray<br>Tray 1, Tray 2, Tray 3, Tray 4<br>(Depending on conditions of the machine and option installation.) |
| Duplex print           | Standard   |
| Finisher               | Option   |
| Printer driver         | Standard   |
| Manual (Online manual) | Standard   |
| Platform               | IBM PC/AT (Include compatible machine)   |

| Item                        | Detail   |
|-----------------------------|--|
| Support OS (Printer Driver) | Windows 95/98/Me<br>Windows NT 4.0 Workstation (SP5 or later)<br>Windows 2000 Professional<br>Windows XP Home/Professional Edition |

## B. Printer driver specification

### (1) System

| Machine                                   | OS  |
|---|---|
| IBM PC/AT<br>(Include compatible machine) | Windows 95/98/Me                          |
|   | Windows NT 4.0 Workstation (SP5 or later) |
|   | Windows 2000 Professional                 |
|   | Windows XP Home/Professional Edition      |

### (2) Printing function specification

|              | Function              | Content   |
|--------------|-----------------------|---|
| General      | Copies                | 1-999   |
|              | Orientation           | Portrait<br>Landscape   |
|              | Collate               | Collate<br>Uncollate  |
|              | Document Style        | 1-Sided, 2-Sided (Book),<br>2-Sided (Tablet)  |
|              | N-up printing         | 2/4   |
|              | N-up Order            | Z   |
|              | N-up Border           | Yes/No  |
|              | User Setting          | Yes   |
| Paper Input  | Paper Size            | A3 / B4 / A4 / B5 / A5 / B6 /<br>A6 / Ledger (11x17) /<br>Legal (8.5 x 14) /<br>Foolscap (8.5 x 13) /<br>Letter (8.5 x 11) /<br>Invoice (5.5 x 8.5) / Folio /<br>Executive / COM-10 /<br>DL / C5 / 8K / 16K |
|              | Custom Paper Size     | 1 size  |
|              | Source Selection      | <ul style="list-style-type: none"> <li>• Auto</li> <li>• Bypass (Auto)</li> <li>• Bypass (Manual)</li> <li>• Tray 1/2/3/4</li> </ul>  |
|              | Paper Type            | Tray: Normal paper, letter head paper, recycle paper, colored paper<br>Bypass: Normal paper, letter head paper, recycle paper, colored paper, thick paper, thin paper, label paper, OHP, postcard, envelope |
|              | Transparency print    | Yes / No  |
| Paper Output | Output Tray Selection | <ul style="list-style-type: none"> <li>• Center Tray</li> <li>• Upper Tray</li> <li>• Finisher Offset tray</li> </ul>   |
|              | Staple                | Yes / No  |
| Graphic      | Print Quality         | Normal<br>Draft<br>Photo  |
|              | Smoothing             | Yes / No  |
|              | Toner save            | Yes / No  |
|              | Photo Enhancement     | Yes / No  |
|              | Fit to Page           | Yes / No  |
|              | 2 Gradation print     | Yes / No  |
|              | Image Adjustment      | Brightness : 0 to 100<br>Contrast : 0 to 100  |

|                       | Function            | Content  |
|-----------------------|---------------------|--|
| Watermark             | Watermark           | (None) / TOP SECRET / CONFIDENTIAL / DRAFT / ORIGINAL / COPY |
|                       | User setting        | Add / Update / Delete  |
|                       | Position            | Center<br>X: ±50<br>Y : ±50                                  |
|                       | Size                | 6 to 300   |
|                       | Angle               | ±90  |
|                       | Gray Scale          | 0 to 255   |
|                       | Edit Font           | Yes  |
|                       | On first page only  | Yes / No   |
| Configuration Setting | Input Trays         | Two / Three / Four trays                                     |
|                       | Output Tray Options | None / Upper Tray / Staple Finisher                          |
|                       | Set Tray Status     | Yes  |
|                       | Version Information | Yes  |
| Others                | ROPMP               | Yes / No   |

### (3) Print quality

| Mode                     | Control        | Content   |
|--------------------------|----------------|---|
| Resolution/Print quality | 600dpi (Fixed) | Print quality is selected from Normal*/Draft/Photo. |
| Smoothing                | On*            | Smoothing function is ON.                           |
|                          | Off            | Smoothing function is OFF.                          |
| Toner Save Mode          | On             | Toner save function is ON.                          |
|                          | Off*           | Toner save function is OFF.                         |
| Photo Enhancement        | On             | Photo enhancement function is ON.                   |
|                          | Off*           | Photo enhancement function is OFF.                  |
| 2 Gradation print        | On             | 2-Gradation print function is ON.                   |
|                          | Off*           | 2-Gradation print function is OFF.                  |

\* Default

## (5) Paper handling specifications

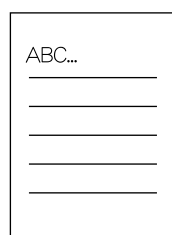
### a. Paper feed direction

Limitations on tray/functions for support paper

| Paper name | Paper size                             | Paper feed tray |        |        |        |        | Paper exit tray |            |             | Function |          |
|------------|--|-----------------|--------|--------|--------|--------|-----------------|------------|-------------|----------|----------|
|            |  | Manual tray     | Tray 1 | Tray 2 | Tray 3 | Tray 4 | Center tray     | Upper tray | Offset tray | Staple   | Fit page |
| A3         | 297 x 420 mm                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| A4         | 210 x 297 mm                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| A5         | 148 x 210 mm                           | Yes             | Yes    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| A6         | 105 x 148 mm                           | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | N/A        | N/A         | N/A      | Yes      |
| B4         | 257 x 364 mm                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| B5         | 182 x 257 mm                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| B6         | 128 x 182 mm                           | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| Ledger     | 11 x 17 inch                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| Letter     | 8.5 x 11 inch                          | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| Legal      | 8.5 x 14 inch                          | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| Executive  | 7.25 x 10.5 inch                       | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| Folio      | 8.3 x 13 inch                          | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| Invoice    | 5.5 x 8.5 inch                         | Yes             | Yes    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| Foolscap   | 8.5 x 13 inch                          | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | Yes      | Yes      |
| 8K         | 270 x 390 mm                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | N/A      | Yes      |
| 16K        | 195 x 270 mm                           | Yes             | Yes    | Yes    | Yes    | Yes    | Yes             | Yes        | Yes         | N/A      | Yes      |
| DL         | 110 x 220 mm                           | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| C5         | 162 x 229 mm                           | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| Com10      | 4.125 x 9.5 inch                       | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | Yes        | N/A         | N/A      | Yes      |
| Custom     | W: 100 to 297 mm<br>L: 148 to 431.8 mm | Yes             | N/A    | N/A    | N/A    | N/A    | Yes             | N/A        | N/A         | N/A      | N/A      |

Setting direction toward paper feed port = Long side

Transfer direction



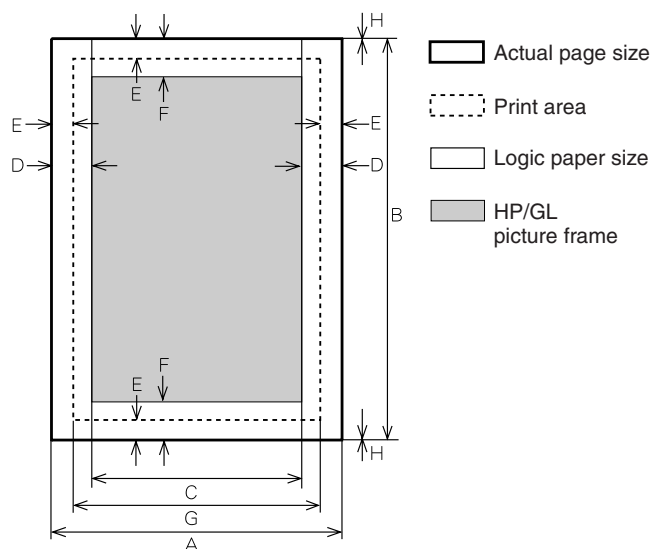
Setting direction toward paper feed port = Short side

Transfer direction

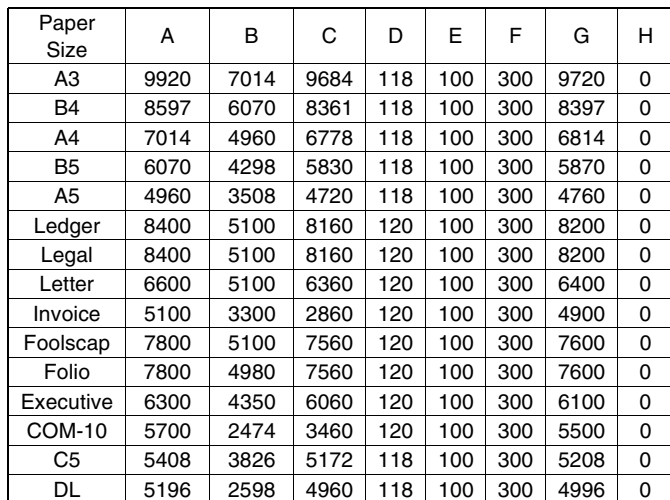


| Paper Size | A    | B     | C    | D   | E   | F   | G    | H |
|------------|------|-------|------|-----|-----|-----|------|---|
| A3         | 7014 | 9920  | 6730 | 142 | 100 | 300 | 6814 | 0 |
| B4         | 6070 | 8597  | 5786 | 142 | 100 | 300 | 5870 | 0 |
| A4         | 4960 | 7014  | 4676 | 142 | 100 | 300 | 4760 | 0 |
| B5         | 4298 | 6070  | 5770 | 142 | 100 | 300 | 4098 | 0 |
| A5         | 3508 | 4960  | 3224 | 142 | 100 | 300 | 3308 | 0 |
| Ledger     | 6600 | 10200 | 6300 | 150 | 100 | 300 | 6400 | 0 |
| Legal      | 5100 | 8400  | 4800 | 150 | 100 | 300 | 4900 | 0 |
| Letter     | 5100 | 6600  | 4800 | 150 | 100 | 300 | 4900 | 0 |
| Invoice    | 3300 | 5100  | 3000 | 150 | 100 | 300 | 3100 | 0 |
| Foolscap   | 5100 | 7800  | 4800 | 150 | 100 | 300 | 4900 | 0 |
| Folio      | 4980 | 7800  | 4680 | 150 | 100 | 300 | 4780 | 0 |
| Executive  | 4350 | 6300  | 4050 | 150 | 100 | 300 | 4150 | 0 |
| COM-10     | 2474 | 5700  | 2174 | 150 | 100 | 300 | 2274 | 0 |
| C5         | 3826 | 5408  | 3542 | 142 | 100 | 300 | 3626 | 0 |
| DL         | 2598 | 5196  | 2314 | 142 | 100 | 300 | 2398 | 0 |

### (6) Print enable area







The set value is received from the digital copier, and data are made according to the set value.

Since the paper size sensor is not set, the digital copier cannot recognize the size and direction of paper which is actually inserted. Therefore, the left margin is set according to the paper size specified in the print data sent from the computer, and print process is performed. If the computer does not specify the paper size, or in the case of the custom size, the left margin is set according to the default paper size.

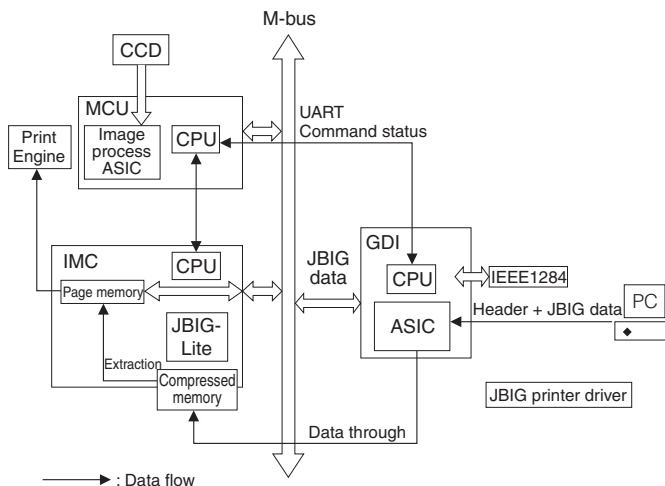
This machine employs the center reference system. Since the digital copier is not provided with the tray size detection feature, formatting and center distribution are performed not by the actual paper size but by the paper size specified by the computer.



|           |                                |
|-----------|--------------------------------|
| Interface | IEEE 1284 (Parallel interface) |
|           | USB Ver. 2.0                   |

The GDI-PWB is provided with IEEE1284 I/F on the host side, and the 16-bit bi-directional data bus I/F and UART on the machine side. Transfer of image data with the IMC-PWB is performed with this 16-bit bi-directional data bus. Command status information with the engine is processed with UART.

JBIG compression data sent from the host are transferred to the IMC PWB, where the data are extracted to be VIDEO data, and sent through the MCU PWB to the LSU.



## [4] CONSUMABLE PARTS

### 1. List

#### A. SEC/LAG/SECL

| No. | Item                  | Content   | Life                                     | Model name | Remarks   |
|-----|-----------------------|---|--|------------|---|
| 1   | Toner CA (black) w/IC | Toner<br>Vinyl bag  | 25K (×10)<br>×10                         | AR-270MT   | Life setting by A4 (8.5"×11") 6% document<br>MT=NT*10   |
| 2   | Developer             | Developer<br>(Developer; Net weight 500g)   | 75K (×10)<br>×10                         | AR-271MD   | MD=ND*10  |
| 3   | Drum kit              | Drum  | 75K<br>×1                                | AR-271DR   |   |
| 4   | Upper heat roller kit | Upper heat roller<br>Fusing gear<br>Upper heat roller bearing<br>Upper cleaning pad<br>Fusing separation pawl (upper) | 150K<br>×1<br>×1<br>×2<br>×1<br>×4       | AR-272UH   |   |
| 5   | Lower heat roller kit | Lower heat roller<br>Fusing separation pawl (lower)<br>Fusing busing (lower)  | 300K<br>×1<br>×4<br>×2                   | AR-272LH   |   |
| 6   | 150K maintenance kit  | Drum separation unit<br>Transfer roller unit<br>DV seal<br>DV side sheet N<br>DV side sheet N2<br>DV side mylar       | 150K<br>×2<br>×1<br>×1<br>×1<br>×1<br>×2 | AR-272KA1  |   |
| 7   | MC unit               | MC unit   | 75K (×10)<br>×10                         | AR-270MC   |   |
| 8   | Cleaner blade         | Cleaner blade   | 75K (×10)<br>×10                         | AR-270CB   |   |
| 9   | Drum frame unit       | Drum frame unit   | 225K<br>×1                               | AR-272DU   | * The life of the toner reception seat welded to the drum frame is 225K, and it can be used up to 3 times. (Supplied as a drum frame unit.)<br>* Drum frame unit contains all the drum unit parts excluding Drum and Drum fixing plate. |
| 10  | Staple cartridge      | Staple cartridge  | 3000 staples<br>×3                       | AR-SC1     | For AR-FN5N (For 30 sheets staple)  |
| 11  | Transfer roller unit  | Transfer roller unit  | 150K<br>×1                               | AR-272TX   |   |
| 12  | Paper feed roller kit | Paper feed roller kit   | 100K<br>×1                               | AR-271IR   |   |
| 13  | Fusing unit           | Fusing unit (120V heater lamp)  | 150K<br>×1                               | AR-272FU   |   |

\* The other maintenance parts than the above are supplied as service parts.

#### B. SEEG/SUK/SCA/SCNZ/SEA/SEES/SEZ/SEIS/SEB/SEN/SEF/SMEF/Russia/Special country

| No. | Item                  | Content   | Life                                     | Model name | Remarks   |
|-----|-----------------------|---|--|------------|---|
| 1   | Toner CA (black) w/IC | Toner<br>Vinyl bag  | 25K (×10)<br>×10                         | AR-270LT   | Life setting by A4 (8.5"×11") 6% document<br>LT=T*10  |
| 2   | Developer             | Developer<br>(Developer; Net weight 500g)   | 75K (×10)<br>×10                         | AR-271LD   | LD=DV*10  |
| 3   | Drum kit              | Drum  | 75K<br>×1                                | AR-271DM   |   |
| 4   | Upper heat roller kit | Upper heat roller<br>Fusing gear<br>Upper heat roller bearing<br>Upper cleaning pad<br>Fusing separation pawl (upper) | 150K<br>×1<br>×1<br>×2<br>×1<br>×4       | AR-272UH   |   |
| 5   | Lower heat roller kit | Lower heat roller<br>Fusing separation pawl (lower)<br>Fusing busing (lower)  | 300K<br>×1<br>×4<br>×2                   | AR-272LH   |   |
| 6   | 150K PM kit           | Drum separation unit<br>Transfer roller unit<br>DV seal<br>DV side sheet N<br>DV side sheet N2<br>DV side mylar       | 150K<br>×2<br>×1<br>×1<br>×1<br>×1<br>×2 | AR-272KA   |   |
| 7   | MC unit               | MC unit   | 75K (×10)<br>×10                         | AR-270MC   |   |
| 8   | Cleaner blade         | Cleaner blade   | 75K (×10)<br>×10                         | AR-270CB   |   |
| 9   | Drum frame unit       | Drum frame unit   | 225K<br>×1                               | AR-272DU   | * The life of the toner reception seat welded to the drum frame is 225K, and it can be used up to 3 times. (Supplied as a drum frame unit.)<br>* Drum frame unit contains all the drum unit parts excluding Drum and Drum fixing plate. |
| 10  | Staple cartridge      | Staple cartridge  | 3000 staples<br>×3                       | AR-SC1     | For AR-FN5N (For 30 sheets staple)  |
| 11  | Transfer roller unit  | Transfer roller unit  | 150K<br>×1                               | AR-272TX   |   |

\* The other maintenance parts than the above are supplied as service parts.

### C. STCL/SRH/SRS/SRSSC/SBI/Agent

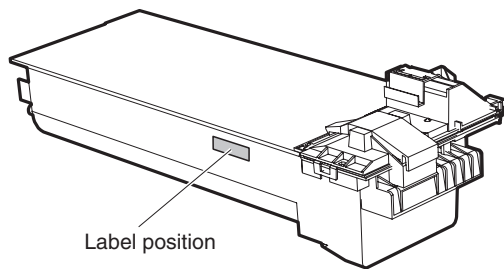
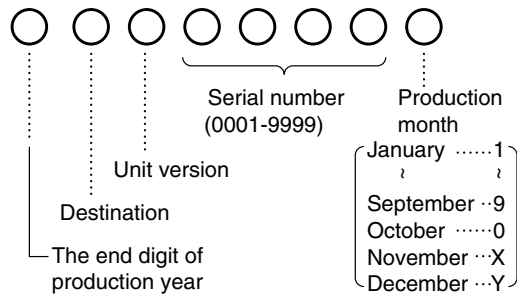
| No. | Item                  | Content   | Life                             | Model name         | Remarks  |   |
|-----|-----------------------|---|----------------------------------|--------------------|----------|---|
| 1   | Toner CA (black) w/IC | Toner<br>Vinyl bag  | ×10<br>×10                       | 25K (×10)          | AR-270CT | Life setting by A4 (8.5"×11") 6% document<br>CT=ST*10   |
| 2   | Developer             | Developer<br>(Developer; Net weight 500g)   | ×10                              | 75K (×10)          | AR-271CD | CD=SD*10  |
| 3   | Drum kit              | Drum  | ×1                               | 75K                | AR-271DR |   |
| 4   | Upper heat roller kit | Upper heat roller<br>Fusing gear<br>Upper heat roller bearing<br>Upper cleaning pad<br>Fusing separation pawl (upper) | ×1<br>×1<br>×2<br>×1<br>×4       | 150K               | AR-272UH |   |
| 5   | Lower heat roller kit | Lower heat roller<br>Fusing separation pawl (lower)<br>Fusing busing (lower)  | ×1<br>×4<br>×2                   | 300K               | AR-272LH |   |
| 6   | 150K PM kit           | Drum separation unit<br>Transfer roller unit<br>DV seal<br>DV side sheet N<br>DV side sheet N2<br>DV side mylar       | ×2<br>×1<br>×1<br>×1<br>×1<br>×2 | 150K               | AR-272KA |   |
| 7   | MC unit               | MC unit   | ×10                              | 75K (×10)          | AR-270MC |   |
| 8   | Cleaner blade         | Cleaner blade   | ×10                              | 75K (×10)          | AR-270CB |   |
| 9   | Drum frame unit       | Drum frame unit   | ×1                               | 225K               | AR-272DU | * The life of the toner reception seat welded to the drum frame is 225K, and it can be used up to 3 times. (Supplied as a drum frame unit.)<br><br>* Drum frame unit contains all the drum unit parts excluding Drum and Drum fixing plate. |
| 10  | Staple cartridge      | Staple cartridge  | ×3                               | 3000 staples<br>×3 | AR-SC1   | For AR-FN5N (For 30 sheets staple)  |

\* The other maintenance parts than the above are supplied as service parts.

## 2. Production number identification

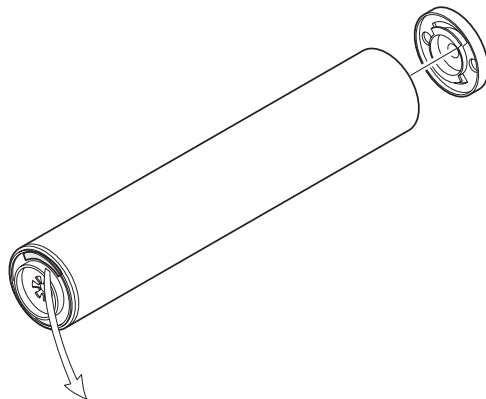
### <TD cartridge>

The label on the TD cartridge shows the date of production.



### <Drum>

The laser print indicates the date (year, month, day) of production.

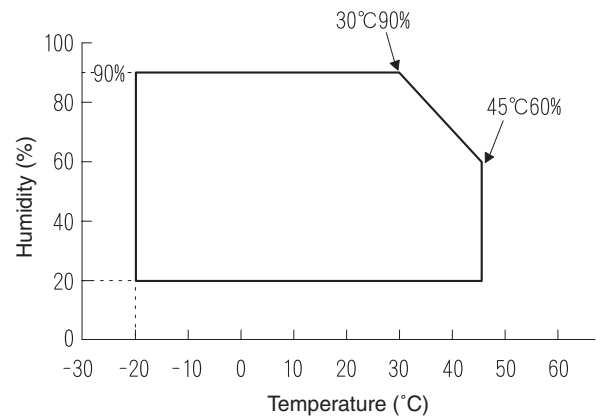


| 1 | 2 | 3 |
|---|---|---|
|---|---|---|

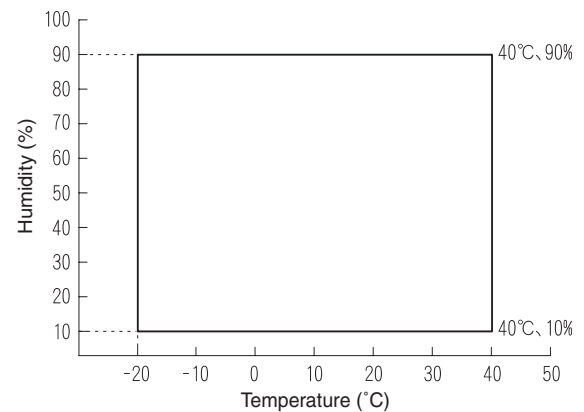
- 1 The last digit of the production year.
- 2 The production month.  
X stands for October, Y November, and Z December.
- 3 The production sub lot.

## 3. Environment conditions

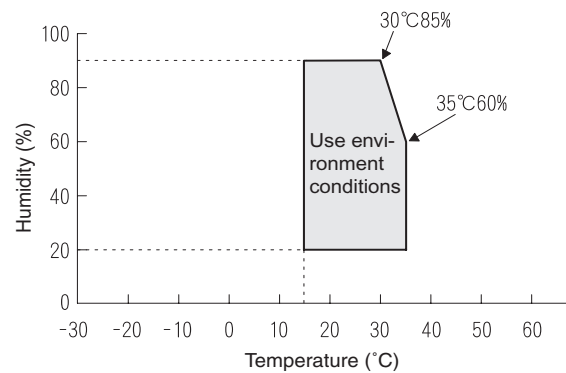
### A. Ambient conditions for transporting



### B. Ambient storage conditions (sealed)



### C. Operating ambient conditions



## 4. Life (packed conditions)

Photoconductor drum (36 months from the production month)

Developer, toner (24 months from the production month)

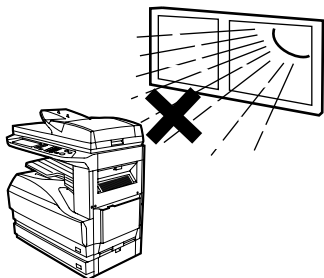
## [5] UNPACKING AND INSTALLATION

### 1. Installation

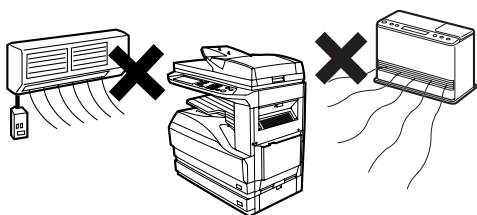
#### A. Environment

The performance of this machine is affected by the environment of the installing site. Avoid installation to the following places:

- Avoid installation in direct sunlight, otherwise the plastic parts may be deformed.



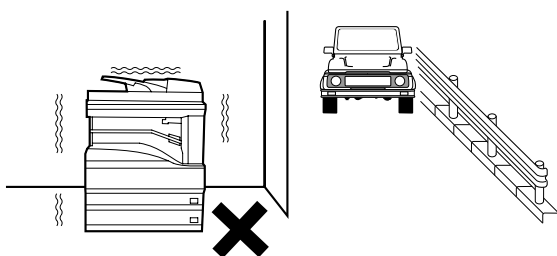
- Avoid installation in a place of high temperature, high humidity, low temperature or low humidity, otherwise paper may be dampened and frost may be generated in the machine to cause a paper jam and dirty copy.



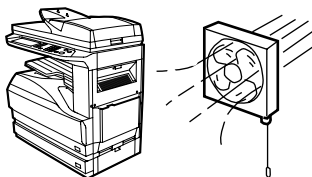
- Avoid installation in a dusty place, otherwise dust may enter the machine to cause dirty copy or machine troubles.



- Avoid installation to a place with much vibration, otherwise the machine may cause troubles.



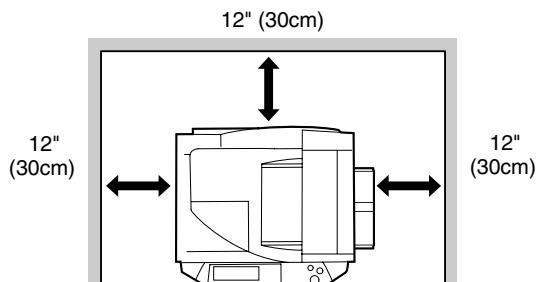
- Avoid installation to a place of poor ventilation.



- Avoid installation to a place where there is ammonium gas. Installation near a diazo-copier may lead to dirty copy.

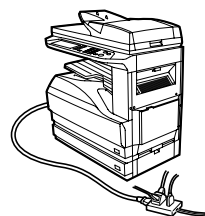


- Be sure to have enough space around the machine. Be sure to allow the required space around the machine for servicing and proper ventilation.

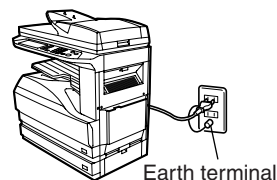


#### B. Power source

- Be sure to use only the power outlet (with the earth terminal) of 15A or more and 100V.
- Install the machine near the power outlet to facilitate disconnection of the power plug.
- If the power plug of this machine and other illuminating apparatus are connected to the same power outlet, the lamp may flicker. Use an exclusive power outlet for this machine without connecting another lamp together.
- Avoid complex wiring. Be careful not to damage, break, or process the power cord.

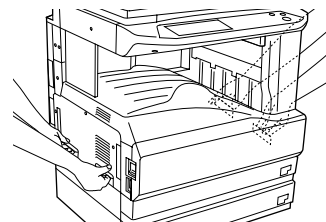


- Earth wire connection  
Be sure to connect the earth wire for protection against danger. If not, a leakage may cause a fire or an electric shock.



#### C. Transport

- When transporting the machine, use manpower of two persons to hold the grips on the both sides of the machine with both hands.



## D. Other precautions

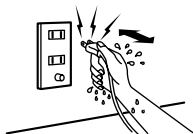
- If the machine produces smoke or bad smell, stop the operation of the machine.



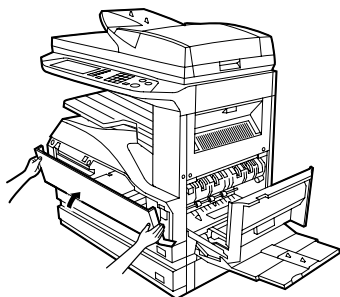
- Do not use flammable spray near the machine.
- Do not remove the cabinet of the machine.
- Do not put a receptacle with water in it or metal pieces, which may drop inside the machine, causing a trouble.



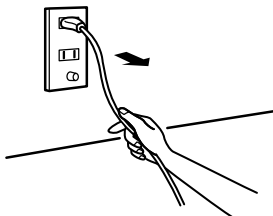
- When it thunders, turn off the power and disconnect the power plug from the power outlet to prevent against an electric shock or a fire caused by lighting damage.
- If a piece of metal or water enters the machine, turn off the power and disconnect the power plug from the power outlet.
- Do not touch the power plug with a wet hand.



- Do not remodel the machine.
- Be careful not to pinch your fingers when closing the front cover or the side cover and setting the paper feed tray to supply paper or process a paper jam.



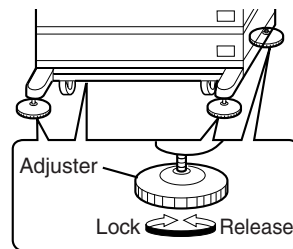
- When disconnecting the power plug from the power outlet, do not pull the cord.



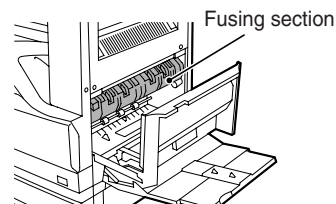
- Do not throw toner or the toner cartridge into a fire.
- Keep toner or the toner cartridge away from the children.

- When the exclusive table (option) is used, be sure to use the adjusters (4 pcs.) on the floor.

When it is required to move the machine for rearrangement of the office, etc., release the adjuster locks and move the machine.



- The fusing section is heated to a high temperature. When removing a paper jam, be careful not to touch the fusing section.

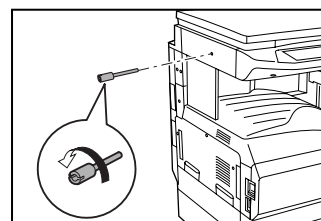


- When the machine is not used for a long time, disconnect the power plug from the power outlet for safety.
- When transporting the machine, turn off the power and disconnect the power plug from the power outlet. (Remove the earth wire after disconnecting the power plug from the power outlet.)

## 2. Removal of protective material and fixing screw

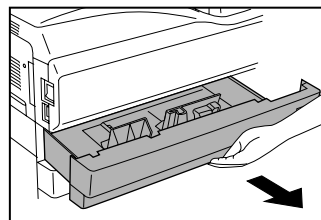
- 1) Remove all tapes, then open the document cover and remove the protective material of sheet shape.
- 2) Use a screwdriver to remove the fixing screw.

The fixing screw is required when transporting the machine. Keep it in the tray. (Refer to the later description.)

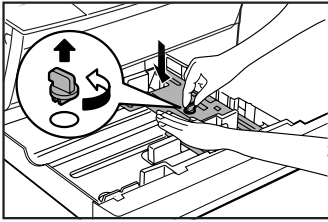


## 3. Removal and storage of fixing pin

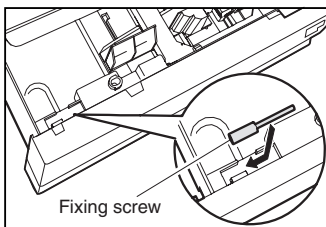
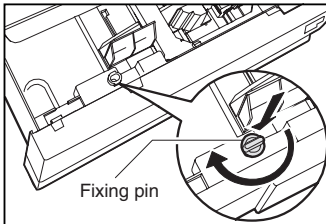
- 1) Lift the knob and gently pull out the tray.



- 2) Hold the paper pressure plate and turn the fixing pin in the arrow direction.



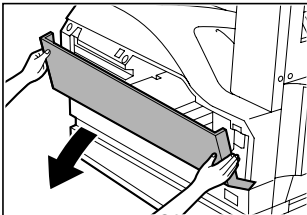
- 3) Store the removed fixing pin and the fixing screw which was removed in the above procedure, together in the specified storage place in the tray.



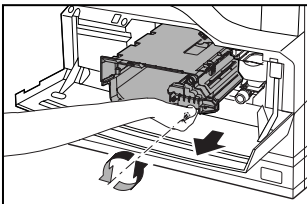
\* If power is turned on without removing the fixing pin, it will be difficult to pull out the tray.

## 4. Developer cartridge installation

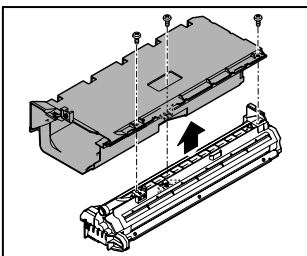
- 1) Hold the both sides of the front cover, and pull down to open it.



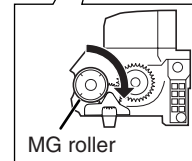
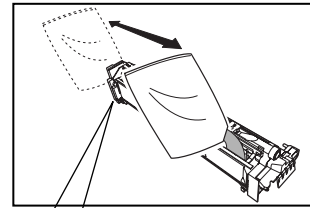
- 2) Loosen the blue screw and pull out the developing cartridge.



- 3) Remove the developer tank from the developer cartridge.



- 4) Rotate the MG roller in the arrow direction and supply developer evenly into the developing unit.



\* Shake the developer bag enough before opening it.

\* Check that the DV seal is free from developer. If developer is attached to the DV seal, clean and remove it.

- 5) Attach the developer tank to the developer cartridge.

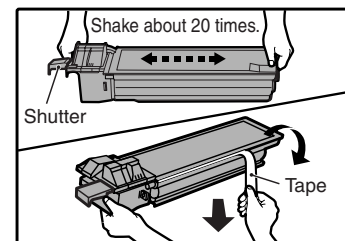
After supplying developer into the developer cartridge, do not tilt or shake the developer cartridge.

- 6) Attach the developer cartridge to the copier, and fix it with the screw.

Note: When replacing the OPC drum with a new one, be sure to clear the drum count.

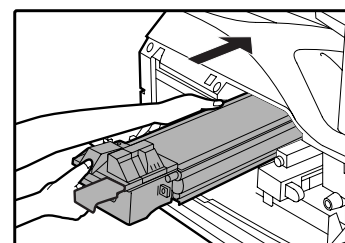
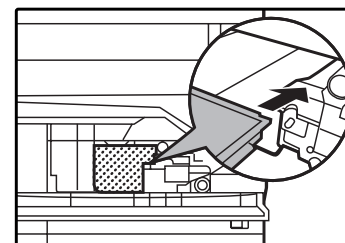
## 5. Toner cartridge installation

- 1) Remove the toner cartridge from the bag, shake it about 20 times horizontally, and remove the tape.



\* When holding the toner cartridge, do not touch the shutter section, but hold the grips. Do not remove the tape before shaking the cartridge.

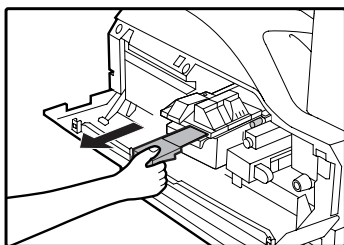
- 2) Press the lock release lever, and insert the unit completely into the copier along the guide groove. Then fix the blue screw and the locking screw.



\* Dirt or dust must be removed from the toner cartridge before installing.

- Remove the tape from the shutter, and remove the shutter from the toner cartridge.

Dispose the removed shutter.



## 6. Toner density sensor level adjustment

- Open the cover with the power OFF.
- Power ON (The mechanism cannot be initialized because the cover is open.)
- Install the developing unit with new developer in it.
- Enter SIM 25-2.  
(# → \* → C → \* → 25 → START → 2 → START)
- Close the cover immediately before starting the operation.
- Press the [START] key to start.

After completion of the adjustment, be sure to cancel the simulation.

Note: When replacing developer with new one, be sure to clear the developer counter.

## 7. Tray paper size setting

When the tray paper size is changed, set the tray paper size in the following procedure.

During temporary halt due to paper empty or a paper jam or during interruption copy, the paper size setting cannot be made.

During FAX data output (when the FAX function is provided) or during printing (when the printing function is provided), the paper size setting cannot be made even in the copy mode.

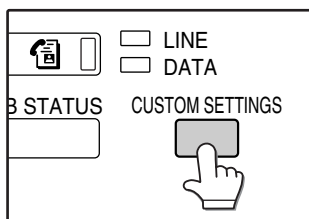
Note: A5 (5 1/2" x 8 1/2") size paper can be set only to the first tray and the manual feed tray.

B5 size paper cannot be set to the second tray. (B5R size paper can be set.)

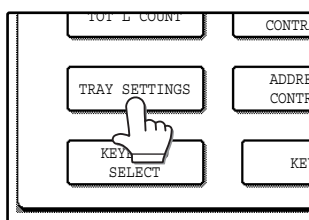
### A. Trays 1 – 4

- Set paper on the tray.
- Press the [CUSTOM SETTINGS] key.

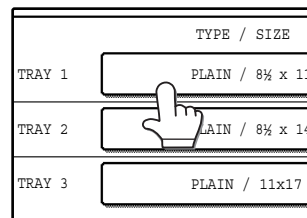
The custom settings menu screen will appear.



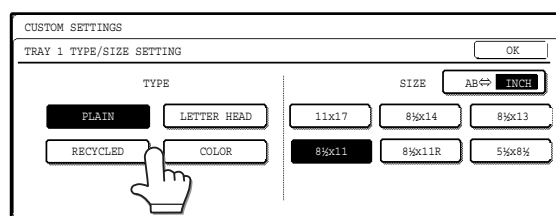
- Touch the [TRAY SETTINGS] key.
- The tray settings screen will appear.



- Select the tray in which you loaded paper.  
If the desired tray does not appear in the display, use the [↑] key or [↓] key to scroll until it appears.



- Select the size and type of paper that is loaded in the tray.  
The currently selected paper type will be highlighted.
  - To change the paper type selection, touch the appropriate type key.
  - To change the paper size selection, touch the appropriate size key.
  - To change the displayed size selections to AB sizes, touch [AB ↔ INCH].

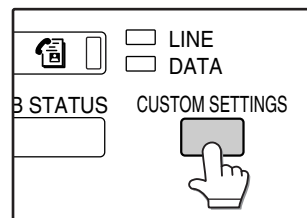


- Touch the [OK] key.
- A message appears prompting you to check the paper in the tray. Check the paper and then touch the [OK] key.  
You will return to the tray settings screen.

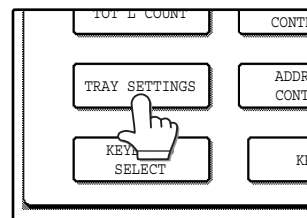
### B. Manual feed tray

- Set paper on the tray.
- Press the [CUSTOM SETTINGS] key.

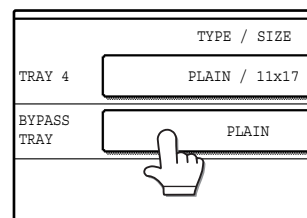
The custom settings menu screen will appear.



- Touch the [TRAY SETTINGS] key.  
The tray settings screen will appear.

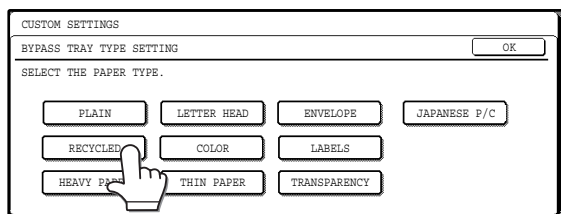


- Touch the [BYPASS TRAY] key.





- 5) Select the type of paper that is loaded in the tray.  
Touch the appropriate paper type key.

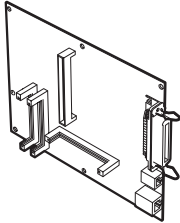





- 6) Touch the [OK] key.  
You will return to the tray settings screen.

## 8. Installation of options

### A. AR-P17

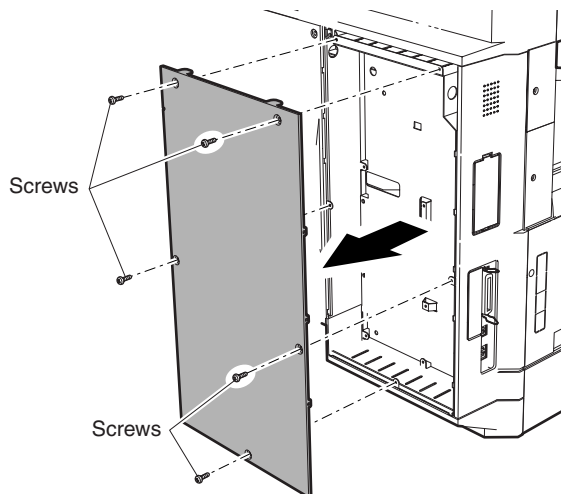
#### (1) Parts included

|  |   |   |
|--|---|---|
|     |   | CD-ROM: 1 pc.<br>Operation manual<br>Installation caution<br>sheet                |
| PCL PWB: 1 pc.   |   |   |
|     |  |  |
| M3 screws: 3 pcs.<br>(For installation of<br>the parallel and the<br>USB connectors) | M3 screws with<br>spring washer: 6 pcs.<br>(For installation of the<br>PCL PWB)   | Support post: 2 pcs.  |

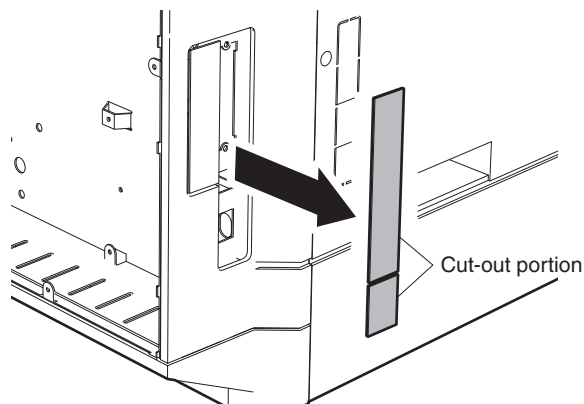
#### (2) Installation procedure

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

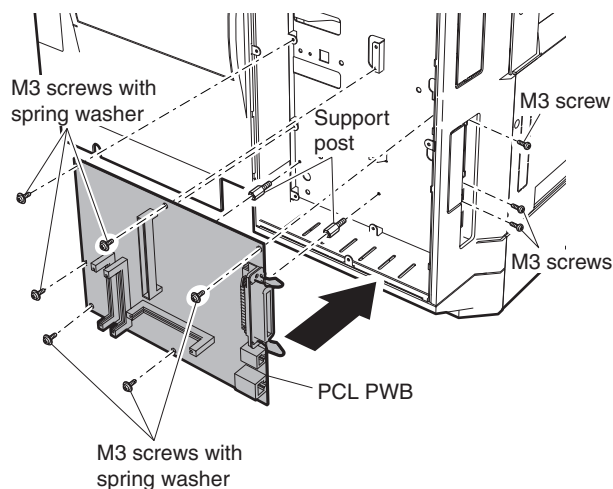
- 1) Remove the shielding plate.  
Remove five screws and remove the shielding plate.



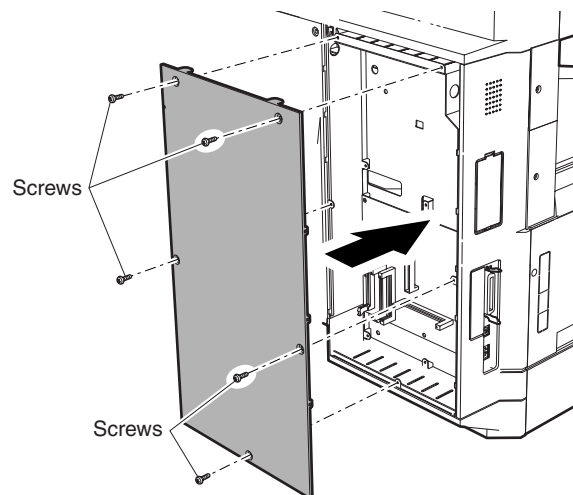
- 2) Cut and remove the cut-out portion from the left rear cabinet.  
Cut and remove the cut-out portion from the left rear cabinet using a tool such as nippers. (Be careful about the direction of the tool so that the cut surface is flat.)



- 3) Attach the PCL PWB unit.  
Attach the support post to the mounting plate of machine options. Then connect the PCL PWB connector to the mother board connector and fit the PCL PWB with the six screws with M3 spring washer (packed with the unit).  
Then, attach the parallel and USB connector portion using the supplied three screws.



- 4) Attach the shielding plate.  
Attach the shielding plate using five screws.



**Insert the power plug of the copier to the outlet and turn on the main switch. Then, carry out the following procedure.**

5) Check for the PCL PWB.

Press the PRINT key on the operation panel to check to see if the copier enters the print mode.

6) Check for the language.

Check for the language setting (26-22) following the procedure described in the service manual (section of simulation).

7) Check for printing.

For installation of printer drivers on a computer, see the supplied operation manual.

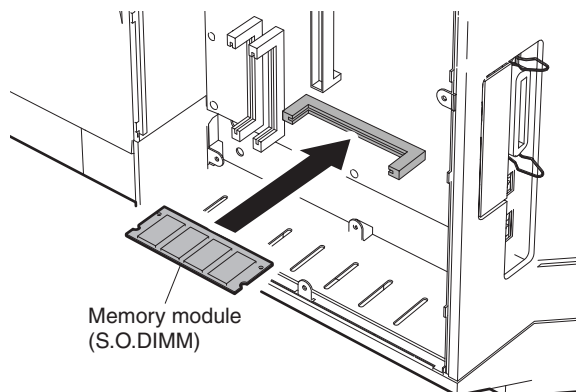
Then, connect a parallel cable to the computer and execute printing to check to see if printing can be executed properly.

### (3) Mounting of additional memory

(After mounting it, Installation proceed to step 4.)

Insert the memory module until it clicks.

The memory module is lock when it is inserted. However, be sure to check that the module slit is engaged with the connector rib when it is inserted.



## B. AR-PK1

### (1) Parts included

|                            |
|----------------------------|
| CD-ROM: 1*                 |
| License agreement          |
| Installation caution sheet |

\*NOTE: Do not use the CD-ROM packed in AR-PK1, but use the CD-ROM packed together with the AR-P17 for setting the PS driver.

### (2) Installation procedure

To enable the PS3, the product key must be acquired.  
(For the method of acquiring the product key, contact the SHARP authorized dealer.)

1) Check that AR-P17 operates normally.

- Turn on the power and wait until warming up is complete.
- Press the PRINT key on the operation panel of the main unit.
- If the LCD in the operation panel of the main unit switches to the print mode normally, AR-P17 is operating normally.
- If it is not operating normally, follow the AR-P17 Installation Manual to check and modify the system configuration settings and check the operation.

2) Enable the PS3.

To enable the system configuration, use the keys on the main unit to set the mode.

Enter the product key with the key operator program. (Refer to the Operation Manual of Key Operator Program.)

Setting of the product key is complete. To update the system, press the CA key to exit the setting mode.

3) Check the PS3.

Make the following sequence of selections on the control panel.

- Press Special Functions , highlight Configuration and press OK.
- Use the up and down keys to highlight Test print menu and press OK.
- Use the up/down keys to highlight Configuration page and press OK.

A configuration page will be printed.

Check that the option memory capacity is 128 MB or more.

Check that the PS3 has been installed.

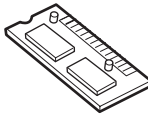
Please keep below important information.  
This information will use for other products.

|                       |  |
|-----------------------|--|
| APPLICATION NUMBER    |  |
| MACHINE SERIAL NUMBER |  |
| PRODUCT KEY           |  |

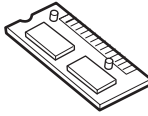
## C. AR-PF1/PF2

### (1) Parts included

#### AR-PF1

|  |   |
|--|---|
|  | CD-ROM: 1 pc.<br>Operation manual<br>Installation caution sheet |
| Bar code board: 1 pc.  |   |

#### AR-PF2

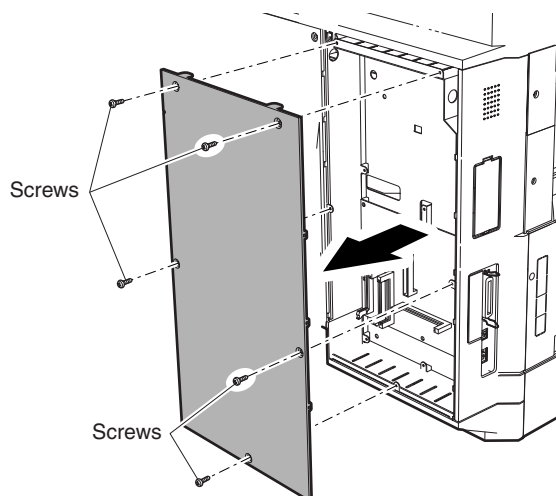
|  |  |
|--|--|
|  | Operation manual<br>Installation caution sheet |
| Flash ROM board: 1 pc.   |  |

### (2) Installation

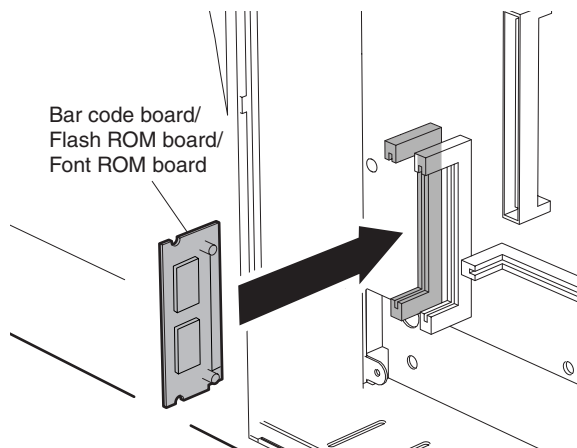
**Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.**

1) Remove the shielding plate.

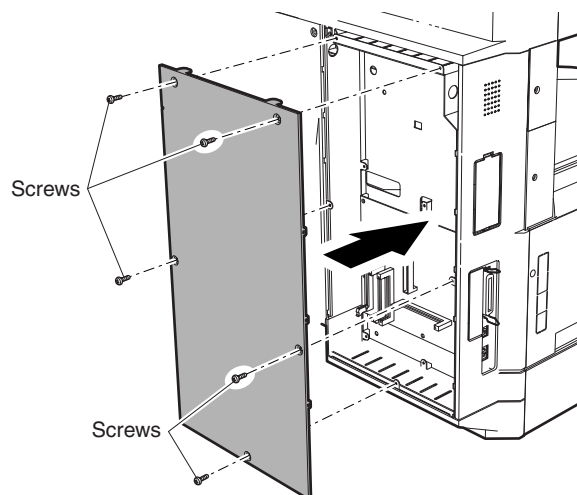
Remove five screws and remove the shielding plate.



- 2) Attach the bar code board/flash ROM.  
Attach the bar code board/flash ROM board to CN7 of the printer board.



- 3) Attach the shielding plate.  
Attach the shielding plate using the five screws.



**Insert the power plug of the copier to the outlet and turn on the main switch. Then, carry out the following procedure.**

- 4) Check the bar codes. (AR-PF1 only)  
Use the operation keys on the operation panel to print the PCL font list from the test page printing.  
Check that the optional font list is printed at the end.

### (3) Font list

| Font No. | Font name                    | Font No. | Font name                 |
|----------|------------------------------|----------|---------------------------|
| 1        | Code128TT-Regular            | 15       | OCR-A                     |
| 2        | Code128-NarrowTT-Regular     | 16       | OCR-B                     |
| 3        | Code128-WideTT-Regular       | 17       | OCR-B-C39-Regular         |
| 4        | Code39HalfInch-Regular       | 18       | Upc-Half                  |
| 5        | Code39OneInch-Regular        | 19       | Upc-HalfBars              |
| 6        | Code39QuarterInch-Regular    | 20       | Upc-HalfMusic             |
| 7        | Code39SmallHigh-Regular      | 21       | Upc-HalfNarrow            |
| 8        | Code39Slim-Regular           | 22       | Upc-HalfThin              |
| 9        | Code39SmallLow-Regular       | 23       | Upc-Tall-Regular          |
| 10       | Code39SmallMedium-Regular    | 24       | Upc-TallBarsThin-regular  |
| 11       | Code39Wide-Regular           | 25       | Upc-TallMusicThin-Regular |
| 12       | Codabar-Regular              | 26       | Upc-TallNarrow-Regular    |
| 13       | Interleaved2of5-Regular      | 27       | Upc-TallThin-regular      |
| 14       | Interleaved2of5-Thin-Regular | 28       | ZipCodeBarcode-Regular    |

### (4) Check when installing the AR-PF2

Check can be made by print out of the printer setting list.

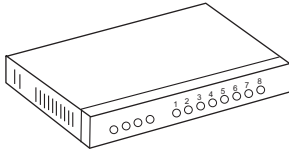
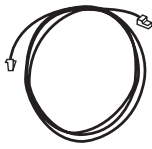
The expansion font item in the printer setting list is changed from "uninstalled" to "download font."

### D. AR-NC5J

#### (1) Connection to a network

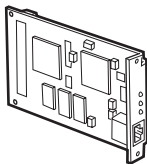


To connect the AR-NC5J to a network, the following items are required.

- For connection in the 100BASE-TX environment, a hub conforming to 100BASE-TX and a shield-type, twisted-pair cable (Category 5) are required.

|  |   |
|--|---|
|  |  |
| Hub  | Shield-type, twisted-pair cable   |

- 1) Check that the printer power is off, and connect the shield-type, twisted-pair cable to the 10/100BASE connector of the AR-NC5J.
- 2) Connect the other end of the cable to the hub.
- 3) Turn on the printer power, and check that the printer operates normally.

#### (2) Parts included

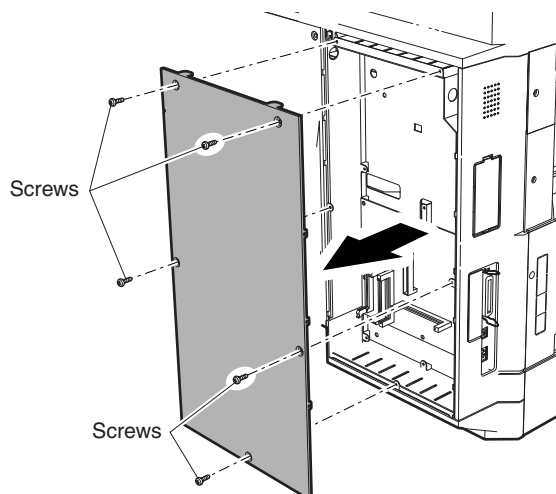
|   |   |   |
|---|---|---|
|  |  |  |
| Print server card:<br>1 pc.   | Screws (silver)<br>M3 x 8: 2 pcs.   | Spacers:<br>2 pcs. (only the one is used)   |
| CD-ROM: 1 pc.   | Operation manual  | Installation caution sheet  |

#### (3) Installation procedure

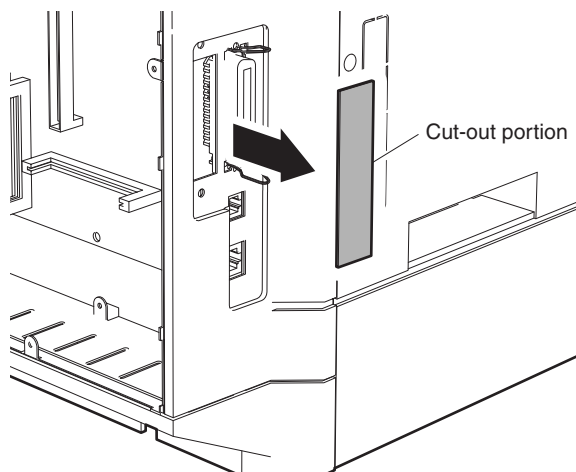
In this case, no spacer is used in the packed items of the AR-NC5J.

**Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.**

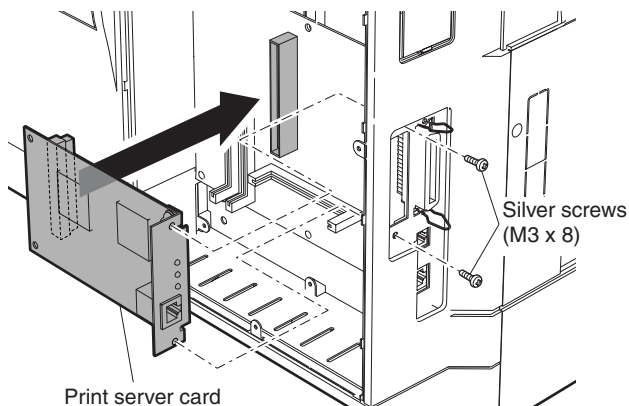
- 1) Remove the shielding plate.  
Remove five screws and remove the shielding plate.



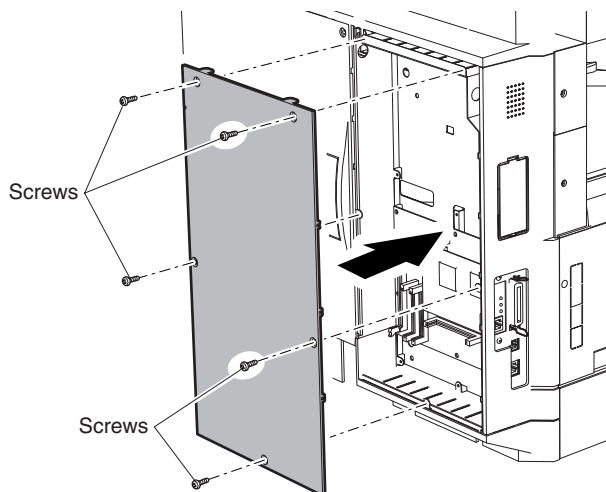
- 2) Cut and remove the cut-out portion from the left rear cabinet.  
Cut and remove the cut-out portion from the left rear cabinet using a tool such as nippers. (Be careful about the direction of the tool so that the cut surface is flat.)



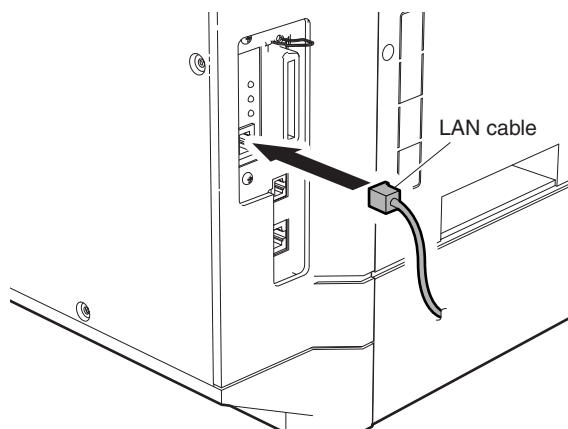
- 3) Attach the print server card.  
Align the connector positions, connect the print server card, and then secure the card to the option mounting plate in the main unit using supplied two silver screws (M3 x 8).



- 4) Reattach the shielding plate.  
Reattach the shielding plate using five screws.



- 5) Connect the cable to the control PWB.  
Connect a LAN cable to the connector of the print server card.



**Insert the power plug of the copier to the outlet and turn on the main switch. Then, carry out the following procedure.**

- 6) Check for the print server card.  
Use the keys on the operation panel to print a configuration page.  
Check that the network interface card has been installed.
- 7) Check for printing.  
Perform setup of the environmental variables.  
(For installation of printer drivers on a computer and network settings (IP address input), see the supplied operation manual.)  
Execute printing to check to see if printing can be executed properly.

## E. AR-NS2

### (1) Packed items

This network scanner kit includes the following items in the package.

- CD-ROM (Network Scanner Tool and Sharpdesk, Installer, Sharp TWAIN driver, etc.)
- Installation caution sheet and Operation Manual (License numbers of 10 user clients of Sharpdesk are specified.)

### (2) Installation procedure

To use the scanner expansion kit, a S.O.DIMM memory module (128 MB or more) is needed.

If no memory is added, an S.O.DIMM module must be mounted on PCL PWB.

For the mounting method and the memory capacity, see below.

To enable the scanner function, the product key must be acquired. (For the method of acquiring the product key, contact the SHARP authorized dealer.)

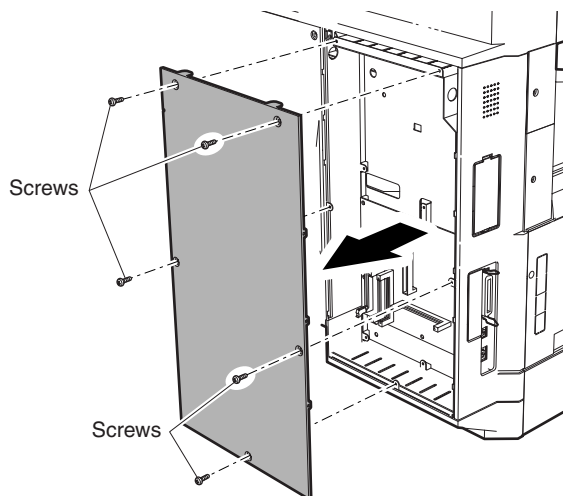
- 1) Check the capacity of the Printer PWB memory.  
Use the keys of the copier to print the configuration page. (For details, see the operation manual.)  
Check that the capacity of the optional memory is 128 MB or more.
- 2) Enable the network scanner feature.  
To enable the system configuration, use the keys on the copier to set the mode.  
Enter the product key with the key operator program. (Refer to the Operation Manual of Key Operator Program.)  
Setting of the product key is completed. Press the [EXIT] key to update the system and exit the setting mode.

### (3) Mounting the additional memory

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

- 1) Remove the shielding plate.

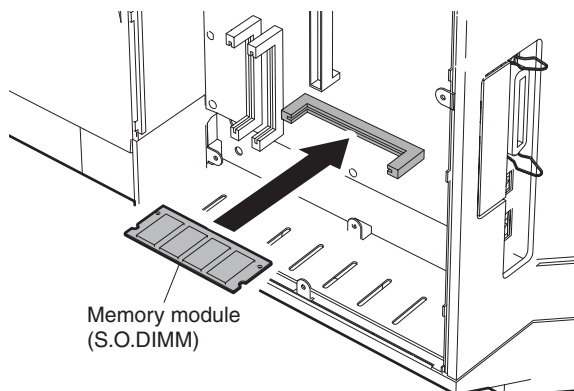
Remove the five screws and remove the shielding plate.



- 2) Mount the memory module.

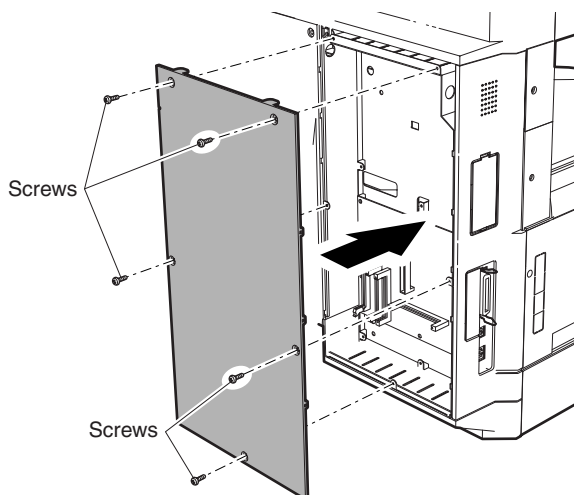
Insert the memory module until it clicks.

The memory module is lock when it is inserted. However, be sure to check that the module slit is engaged with the connector rib when it is inserted.



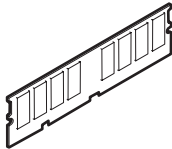
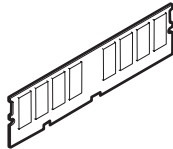
- 3) Reattach the shielding plate.

Reattach the shielding plate using the five screws.



## F. AR-SM5/SM6

### (1) Parts included

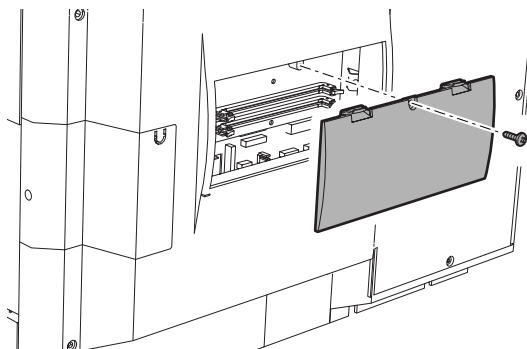
| AR-SM5   | AR-SM6  |
|--|---|
|  |  |
| 256MB SDRAM memory module<br>(168 pin DIMM): 1 pc.<br>Installation caution sheet   | 512MB SDRAM memory module<br>(168 pin DIMM): 1 pc.<br>Installation caution sheet    |

### (2) Installation procedure

Turn off the main switch of the copier and then remove the power plug of the copier from the outlet.

- 1) Remove the shielding plate.

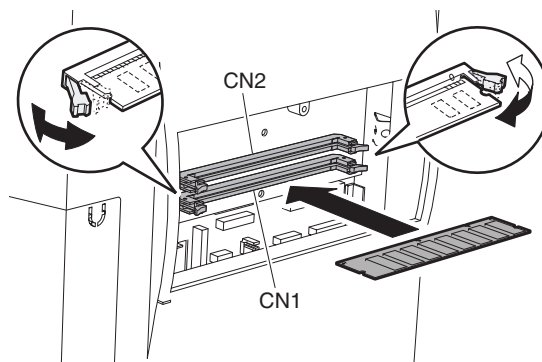
Remove the screw and remove the cabinet.



- 2) Attach the SDRAM memory module.

Attach the SDRAM memory module to CN1 and CN2 of the IMC board.

When only one SDRAM memory module is used, attach it to CN1.

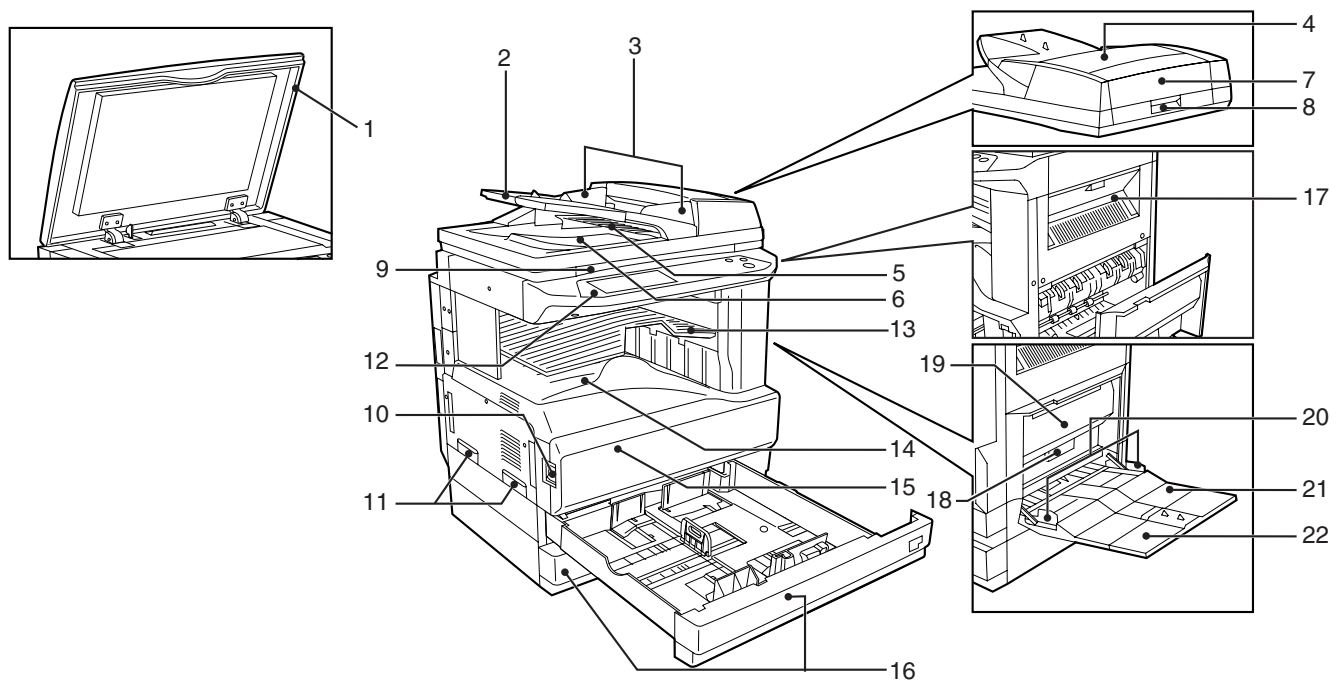




## [6] EXTERNAL VIEW AND INTERNAL STRUCTURE

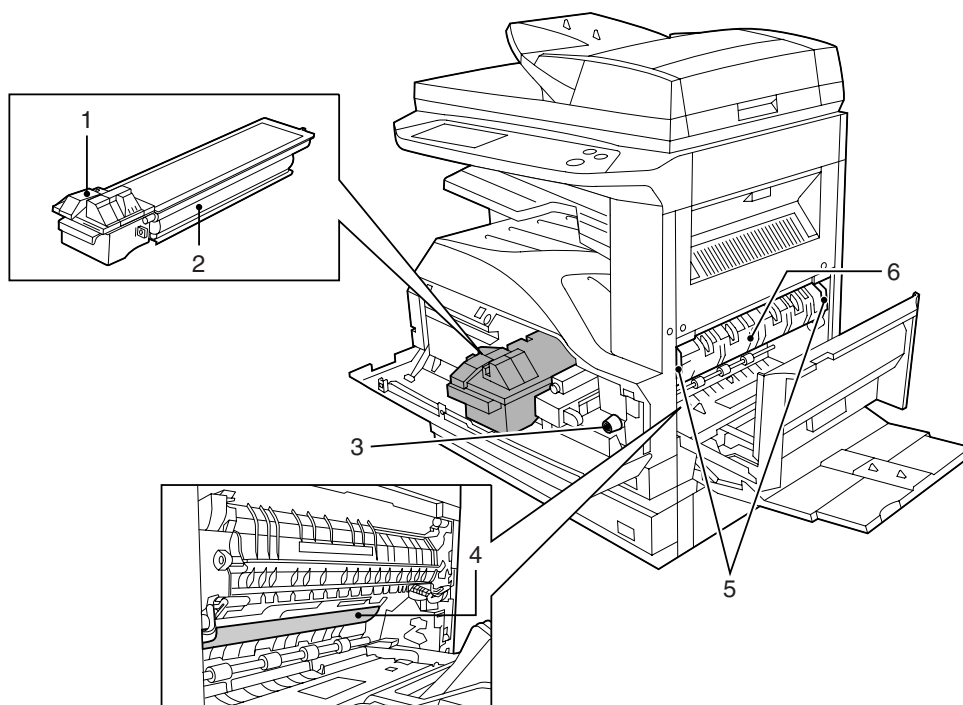
### 1. Name and function of each section

#### A. External view



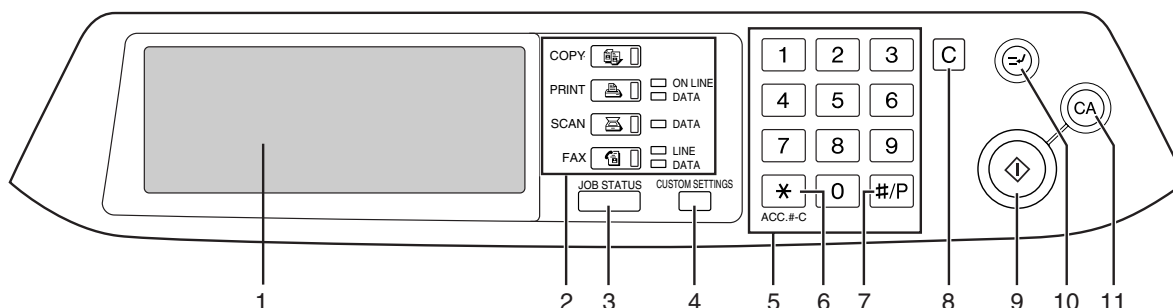
| No. | Name                          | Function/Operation   | Note   |
|-----|-------------------------------|--|--|
| 1   | Platen cover (optional)       | Presses a document.  | Optional (AR-M236/M276)<br>When the reversing single pass feeder installed. (AR-M237/M277: Standard) |
| 2   | Document feeder tray          | Place the original(s) that you wish to scan face up here.  |  |
| 3   | Original guides               | Adjust to the size of the originals.   |  |
| 4   | Document feeder cover         | Open to remove misfed originals.   |  |
| 5   | Reversing tray                | Pull out to remove misfed originals.   |  |
| 6   | Exit area                     | Originals exit the machine here after copying.   |  |
| 7   | Document transport cover      | Open to remove misfed originals.   |  |
| 8   | Document transport cover knob | Pull to open the document transport cover.   |  |
| 9   | Document glass                | Place an original that you wish to scan face down here.  |  |
| 10  | Power switch                  | Press to turn the machine power on and off.  |  |
| 11  | Handles                       | Use to move the machine.   |  |
| 12  | Operation panel               | Contains operation keys and the touch panel.   |  |
| 13  | Job separator tray (optional) | Print jobs and received faxes are delivered to this tray.  | When the job separator tray installed.   |
| 14  | Center tray                   | Finished copies are delivered to the center tray.  |  |
| 15  | Front cover                   | Open to remove paper misfeeds and perform machine maintenance.                                       |  |
| 16  | Paper trays                   | Each tray holds 500 sheets of copy paper.  |  |
| 17  | Upper right side cover        | Open to remove misfeeds when an optional job separator tray kit or a optional finisher is installed. |  |
| 18  | Side cover                    | Open to remove misfeeds.   |  |
| 19  | Side cover handle             | Pull to open the side cover.   |  |
| 20  | Bypass tray paper guides      | Adjust to the width of the paper.  |  |
| 21  | Bypass tray                   | Regular paper and special paper (such as transparency film) can be fed from the bypass tray.         |  |
| 22  | Bypass tray extension         | Pull out the bypass tray extension before placing paper in the bypass tray.                          |  |

## B. Internal structure



| No. | Name                               | Function/Operation  |
|-----|------------------------------------|---|
| 1   | Toner cartridge lock release lever | Use to unlock the toner cartridge.  |
| 2   | Toner cartridge                    | Contains toner.   |
| 3   | Roller rotating knob               | Turn to remove misfed paper.  |
| 4   | Photoconductive drum               | Copy images are formed on the photoconductive drum.   |
| 5   | Fusing unit release levers         | To remove a paper misfeed in the fusing unit, push up on these levers and remove the paper. |
| 6   | Fusing unit paper guide            | Open to remove misfed paper.  |

## C. Operation panel



| No. | Name  | Function/Operation   | Note  |
|-----|---|--|---|
| 1   | Touch panel                                     | The machine status, messages and touch keys are displayed on the panel. The display will show the status of printing, copying or network scanning according to the mode that is selected.  |   |
| 2   | Mode select keys and indicators                 | Use to change modes and the corresponding display on the touch panel.  |   |
|     | [COPY] key                                      | Press to select copy mode.   |   |
|     | [PRINT] key/ONLINE indicator/<br>DATA indicator | [PRINT] key: Press to select print mode.<br>• ONLINE indicator: Print jobs can be received when this indicator is lit.<br>• DATA indicator: A print job is in memory. The indicator lights steadily while the job is held in memory, and blinks while the job is printed.                    |   |
|     | [SCAN] key/DATA indicator                       | [SCAN] key: Press to select network scan mode when the network scanner option is installed.<br>• DATA indicator: Lights steadily or blinks while a scanned image is being sent.  | When the network scanner option is installed. |
| 3   | [FAX] key/LINE indicator/<br>DATA indicator     | [FAX] key: Press to select fax mode when the fax function is installed.<br>• LINE indicator: This lights up while faxes are being sent or received.<br>• DATA indicator: Blinks when a fax has been received to memory and lights steadily when a fax is waiting in memory for transmission. | When the fax function is installed.           |
|     | [JOB STATUS] key                                | Press to display the current job status.   |   |

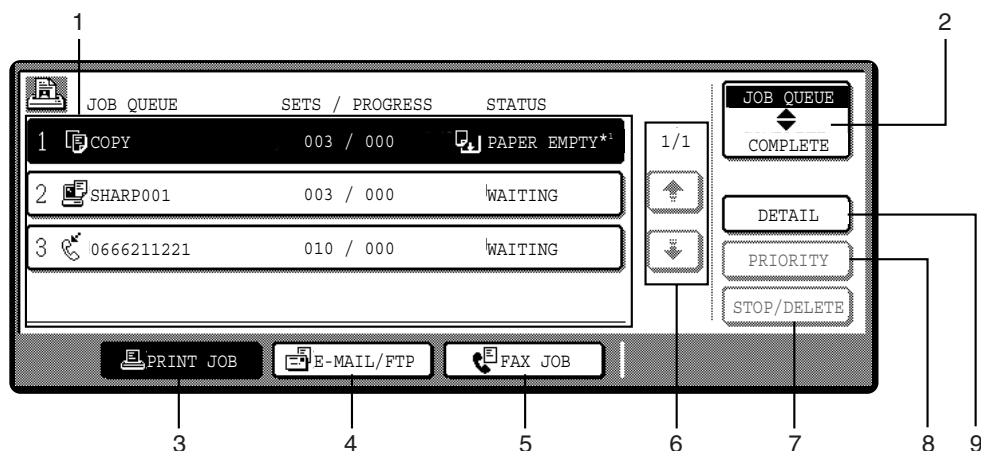
| No. | Name                  | Function/Operation   | Note |
|-----|-----------------------|--|------|
| 4   | [CUSTOM SETTINGS] key | Use to adjust various settings of the machine including the contrast of the touch panel and key operator programs.         |      |
| 5   | Numeric keys          | Use to enter numeric values for various settings.  |      |
| 6   | [ACC.#-C] key         | When auditing mode is enabled, press this key after finishing a job to return the machine to account number entry standby. |      |
| 7   | [#/P] key             | Use this key to execute a job program in copy mode. The key is also used to dial in fax mode.                              |      |
| 8   | [CLEAR] key           | Press to clear a copy number setting or cancel a job.  |      |
| 9   | [START] key           | Press in copy mode, scanner mode, or fax mode to begin copying, network scanning, or faxing.                               |      |
| 10  | [INTERRUPT] key       | Use to perform an interrupt copy job.  |      |
| 11  | [CLEAR ALL] key       | Resets the settings to the initial settings.   |      |

#### D. Job status screen

This screen appears when the [JOB STATUS] key on the operation panel is pressed.

A job list showing the current job and the stored jobs or a list showing completed jobs can be displayed.

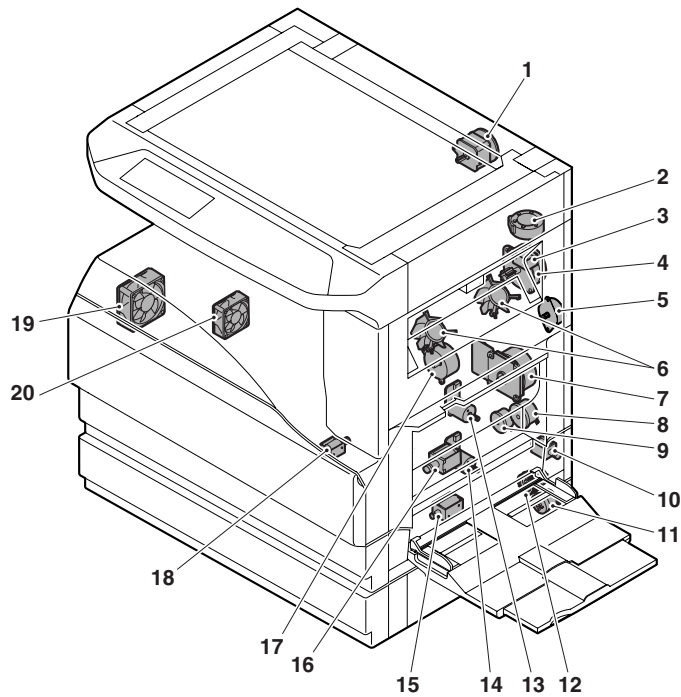
The contents of jobs can be viewed and jobs can be deleted from the queue. The following screen shows the job queue for print jobs.



| No. | Name                   | Function/Operation   | Note   |
|-----|------------------------|--|--|
| 1   | Job list               | Shows stored jobs and the job currently being executed. Touch one of keys 3 to 5 in the above illustration to select the type of job. The icon next to each job name indicates the mode of the job as follows:<br><div style="display: flex; justify-content: space-around;"> <span> Copy mode</span> <span> Printer mode</span> </div> <div style="display: flex; justify-content: space-around;"> <span> Network scanner mode</span> <span> Fax mode (Send jobs)</span> <span> Fax mode (Receive jobs)</span> </div> The jobs in the job list appear in the form of keys. To give priority to a job or pause or delete a job, touch the key of the job and then use the key described in 7 or 8. | * 1 : "PAPER EMPTY" in the job status display<br>"PAPER EMPTY" in the job status display indicates that the machine is out of the specified size of paper. Add the specified size of paper. If the specified size of paper is not available and you are in printer mode, another size of paper can be loaded in the bypass tray to allow printing to take place. |
| 2   | Mode switching keys    | Use to select the job list mode: "JOB QUEUE" (Stored/currently executing jobs) or "COMPLETE" (Finished jobs).<br>"JOB QUEUE": Shows jobs that have been stored and the job that is currently being executed.<br>"COMPLETE": Shows the jobs that have been finished. Note that copy jobs do not appear in this list (print job only).   |  |
| 3   | [PRINT JOB] key        | Use to view the list of output jobs for all modes (print, copy, and fax).  |  |
| 4   | [E-MAIL/FTP] key       | Displays a network scanner job.  | When the network scanner function is installed.  |
| 5   | [FAX JOB] key          | This displays stored fax jobs and the fax job currently being executed.  | When the fax function is installed.  |
| 6   | Display switching keys | Use to change the page of the displayed job list.  |  |
| 7   | [STOP/DELETE] key      | Use to pause or delete a job currently being executed, or to delete a stored job. Copy jobs and received faxes cannot be paused or deleted with this key. Copy jobs can be canceled by pressing the [CLEAR] key or [CLEAR ALL] key.  |  |
| 8   | [PRIORITY] key         | Select a reserved job in the [Reserve/Execution] job list and touch this key, and the selected job will be executed by interrupting the current execution of the other job.  |  |
| 9   | [DETAIL] key           | Shows information on the selected job. This cannot be used for a received fax and copy.  |  |

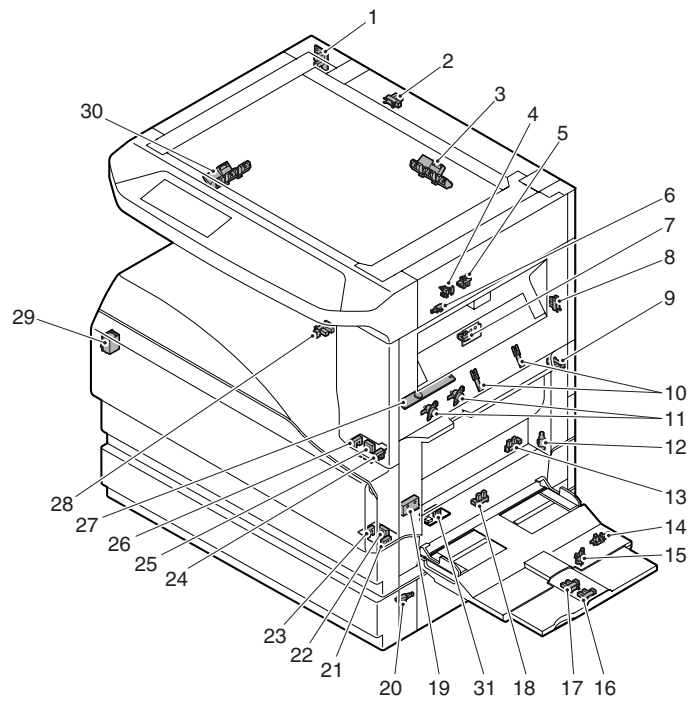


## E. Motor, Solenoid, Clutch



| No. | Name                               | Code  | Function and operation                        |
|-----|------------------------------------|-------|---|
| 1   | Mirror motor                       | MIRM  | Optical mirror base drive                     |
| 2   | Shifter motor                      | SFTM  | Shifter drive                                 |
| 3   | Paper exit gate switching solenoid | OGS   | Paper exit gate switcher                      |
| 4   | Duplex motor                       | DPXM  | Duplex paper switching and exit motor         |
| 5   | DUP-2 motor                        |       | Reverse pass for paper transport              |
| 6   | Cooling fan                        | VFM   | Cools the inside of the unit.                 |
| 7   | Main motor                         | MM    | Main drive                                    |
| 8   | PS clutch                          | RRC   | Main unit paper feed                          |
| 9   | Paper feed clutch                  | CPFS1 | Paper feed roller drive                       |
| 10  | Manual paper feed solenoid         | MPFS  | Manual paper feed solenoid                    |
| 11  | Paper feed transfer clutch         | TRC2  | Paper feed transfer clutch                    |
| 12  | 2nd cassette paper feed clutch     | CPFS2 |   |
| 13  | Cassette lift-up motor             | LUM1  | Cassette paper lift-up                        |
| 14  | Cassette lift-up motor             | LUM2  | Cassette paper lift-up                        |
| 15  | 2nd cassette paper feed solenoid   | CPFC2 | Solenoid for the paper feed from the cassette |
| 16  | Paper feed solenoid                | CPFC1 | Solenoid for the paper feed from the cassette |
| 17  | Toner motor                        | TM    | Toner supply                                  |
| 18  | Separation pawl solenoid           | PSPS  | Separation pawl operation solenoid            |
| 19  | Exhaust fan motor                  | DCFM  | Cools the inside of the unit.                 |
| 20  | Intake fan motor                   | DCFM2 |   |

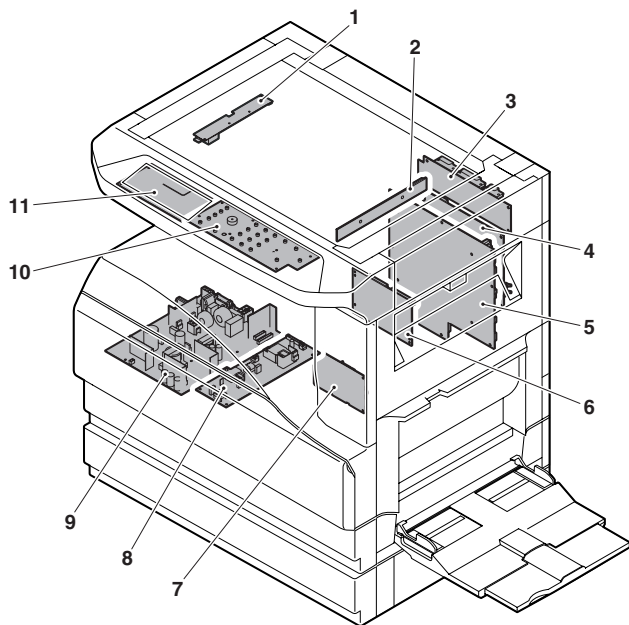
## F. Sensor



| No. | Name                                  | Code  | Function and operation  |
|-----|---------------------------------------|-------|---|
| 1   | Mirror home position sensor           | MHPS  | Mirror (scanner) home position detection  |
| 2   | Document cover sensor                 | OCSW  | Document cover open/close detection   |
| 3   | Document size sensor                  | DSIN3 | Document size detection (Inch series: PD3, 4) (AB series: PD4, 5)                           |
| 4   | 2nd paper exit sensor                 | POD2  | 2nd paper exit detection  |
| 5   | 2nd paper exit full detection sensor  | TOPF  | 2nd paper exit section full detection   |
| 6   | Right cabinet door switch             | DSWR0 | Right cabinet door open/close detection   |
| 7   | 1st paper exit sensor                 | POD1  | 1st paper exit detection  |
| 8   | Shifter home position sensor          | SFTHP | Shifter home position sensor detection  |
| 9   | Paper exit sensor (DUP side)          | PPD2  | Paper exit detection  |
| 10  | Thermistor                            |       | Fusing temperature detection  |
| 11  | Thermostat                            |       | Abnormal high temperature detection in the fusing section                                   |
| 12  | 1st cassette (paper tray) detection   | CD1   | 1st cassette (paper tray) empty detection   |
| 13  | Manual feed paper entry sensor        | PPD1L | Sensor of paper entry from the manual paper feed tray, the 2nd/multi-stage desk, or the DUP |
| 14  | Manual paper feed tray empty sensor 2 | MPLS2 | Manual feed tray position detection   |
| 15  | Manual paper feed tray empty sensor 1 | MPLS1 | Manual feed tray position detection   |
| 16  | Manual feed length detection sensor 1 | MPLD1 | Manual feed paper length detection  |
| 17  | Manual feed length detection sensor 2 | MPLD2 | Manual feed paper length detection  |

| No. | Name  | Code  | Function and operation   |
|-----|---|-------|--|
| 18  | Manual feed paper empty sensor                  | MPED  | Manual feed paper empty detection                                  |
| 19  | Door switch                                     | DSWR1 | Front door and side door open/close detection                      |
| 20  | 2nd right door switch                           | DSWR2 | Side door open/close detection                                     |
| 21  | 2nd cassette paper pass sensor                  | PFD2  | 2nd cassette paper pass  |
| 22  | 2nd cassette paper upper limit detection sensor | LUD2  | 2nd cassette paper upper limit detection                           |
| 23  | 2nd cassette paper empty sensor                 | PED2  | 2nd cassette paper empty detection                                 |
| 24  | 1st cassette paper pass sensor                  | PPD1H | 1st cassette paper pass  |
| 25  | 1st cassette paper upper limit detection sensor | LUD1  | 1st cassette paper upper limit detection                           |
| 26  | 1st cassette paper empty sensor                 | PED1  | 1st cassette paper empty detection                                 |
| 27  | Toner sensor                                    |       | Toner density detection  |
| 28  | Center tray paper YES/NO sensor                 | LOEMP | Center tray paper YES/NO detection                                 |
| 29  | Main switch                                     | PSSW  | Main power switch  |
| 30  | Original size sensor                            | DSIN0 | Document size detection (Inch series: PD1, 2) (AB series: PD1 – 3) |
| 31  | Reverse pass paper detection sensor             | DUP2  | Reverse pass detection   |

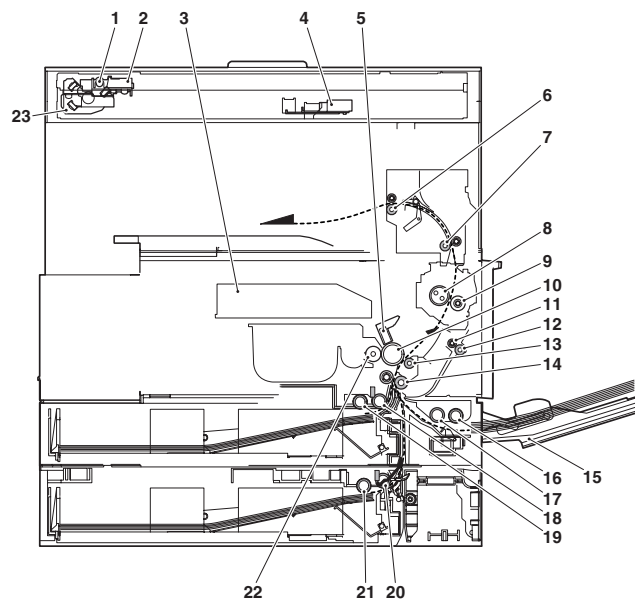
## G. PWB unit



| No. | Name                 | Function and operation              |
|-----|----------------------|-------------------------------------|
| 1   | Inverter PWB         | Copy lamp control                   |
| 2   | CCD PWB              | For image scanning (read)           |
| 3   | Option connector PWB |                                     |
| 4   | IMC PWB              | Image process                       |
| 5   | MCU PWB              | Main unit control                   |
| 6   | Mother board         | Connection with FAX PWB and PCL PWB |
| 7   | Tray interface PWB   | 2nd tray control                    |
| 8   | DC power supply PWB  | DC voltage control                  |

| No. | Name             | Function and operation  |
|-----|------------------|-------------------------|
| 9   | High voltage PWB | High voltage control    |
| 10  | KEY PWB          |                         |
| 11  | OPU PWB          | Operation panel control |

## H. Section



| No. | Name                           | Function and operation  |
|-----|--------------------------------|---|
| 1   | Copy lamp                      | Image radiation lamp  |
| 2   | Copy lamp unit                 | Operates in synchronization with 2nd/3rd mirror unit to radiate documents sequentially. |
| 3   | LSU unit                       | Converts image signals into laser beams to write on the drum.                           |
| 4   | Lens unit                      | Reads images with the lens and the CCD.   |
| 5   | MC holder unit                 | Supplies negative charges evenly on the drum.   |
| 6   | Paper exit roller              | Paper exit roller   |
| 7   | Transport roller               | Paper transport roller  |
| 8   | Upper heat roller              | Fuses toner on paper. (with the Teflon roller)  |
| 9   | Lower heat roller              | Fuses toner on paper. (with the silicone rubber roller)                                 |
| 10  | Drum unit                      | Forms images.   |
| 11  | DUP transport follower roller  | Duplex paper transport  |
| 12  | DUP transport roller           | Duplex paper transport  |
| 13  | Transport roller               | Transfer images on the drum onto paper.   |
| 14  | Resist roller                  | Synchronize the paper lead edge with the image lead edge.                               |
| 15  | Manual feed tray               | Manual feed paper tray  |
| 16  | Manual paper feed roller       | Picks up papers in manual paper feed port.  |
| 17  | Manual feed transport roller   | Transports paper from the manual paper feed port.                                       |
| 18  | 1st cassette pick-up roller    | Picks up paper from the cassette.   |
| 19  | 1st cassette paper feed roller | Transports the picked up paper to RESIST section.                                       |
| 20  | 2nd cassette pick-up roller    | Picks up paper from the cassette.   |
| 21  | 2nd cassette paper feed roller | Transports the picked up paper to RESIST section.                                       |
| 22  | MG roller                      | Puts toner on the OPC drum.   |
| 23  | 2nd/3rd mirror unit            | Reflects the images from the copy lamp unit to the lens unit.                           |

## [7] ADJUSTMENTS, SETTING

### 1. List of adjustment items

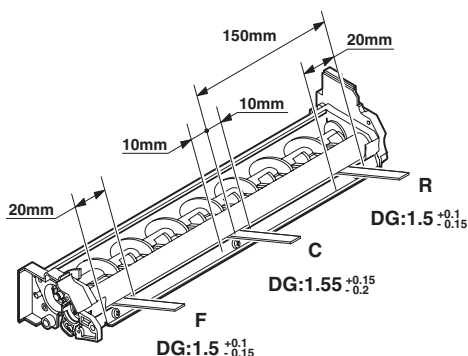
| Section |                                     | Adjustment item |  | Adjustment procedure/SIM No. |  |
|---------|-------------------------------------|-----------------|--|------------------------------|--|
| A       | Process section                     | (1)             | Developing doctor gap adjustment   |                              | Developing doctor gap adjustment   |
|         |                                     | (2)             | MG roller main pole position adjustment  |                              | MG roller main pole position adjustment  |
|         |                                     | (3)             | Developing bias voltage adjustment   |                              | SIM8-1   |
|         |                                     | (4)             | Grid bias voltage adjustment (High mode)   |                              | SIM8-2   |
|         |                                     | (5)             | Grid bias voltage adjustment (Low mode)  |                              | SIM8-3   |
| B       | Mechanism section                   | (1)             | Print start position adjustment  |                              | SIM50-5  |
|         |                                     | (2)             | SPF (RSPF) image lead edge position adjustment   |                              | SIM50-6  |
|         |                                     | (3)             | Rear edge void adjustment  |                              | SIM50-1-6  |
|         |                                     | (4)             | Paper off center adjustment  |                              | SIM50-10   |
|         |                                     | (5)             | Left edge void area adjustment   |                              | SIM50-1-8  |
|         |                                     | (6)             | Main scanning direction (FR direction) distortion balance adjustment                                     |                              | No. 2/3 mirror base unit installing position adjustment<br>Copy lamp unit installing position adjustment |
|         |                                     | (7)             | Sub scanning direction (scanning direction) distortion adjustment  |                              | Winding pulley position adjustment   |
|         |                                     | (8)             | Main scanning direction (FR direction) distortion adjustment   |                              | Rail height adjustment   |
|         |                                     | (9)             | Main scanning direction (FR direction) magnification ratio adjustment                                    |                              | SIM48-1-1  |
|         |                                     | (10)            | Sub scanning direction (scanning direction) magnification ratio adjustment                               | a                            | OC mode in copying (SIM 48-1-2)  |
|         |                                     |                 |  | b                            | RSPF sub scanning direction magnification ratio (SIM48-1-3, 48-1-4)                                      |
|         |                                     | (11)            | Off center adjustment (RSPF mode)  |                              | SIM50-12   |
|         |                                     | (12)            | OC (RSPF) open/close detection position adjustment   |                              | SIM41-3  |
|         |                                     | (13)            | Original sensor adjustment   |                              | SIM41-2, 41-4  |
|         |                                     | (14)            | RSPF white correction pixel position adjustment (required in an RSPF model when replacing the lens unit) |                              | SIM63-7  |
|         |                                     | (15)            | RSPF scan position auto adjustment   |                              | SIM53-8  |
| C       | Image density (exposure) adjustment | (1)             | Copy mode  |                              | SIM46-2  |

### 2. Copier adjustment

#### A. Process section

##### (1) Developing doctor gap adjustment

- Loosen the developing doctor fixing screw A.
- Insert a thickness gauge of 1.5mm to the three positions at 20mm and 150mm from the both ends of the developing doctor as shown.



- Tighten the developing doctor fixing screw.
  - Check the clearance of the developing doctor. If it is within the specified range, then fix the doctor fixing screw with screw lock.
- \* When inserting a thickness gauge, be careful not to scratch the developing doctor and the MG roller.

##### <Adjustment specification>

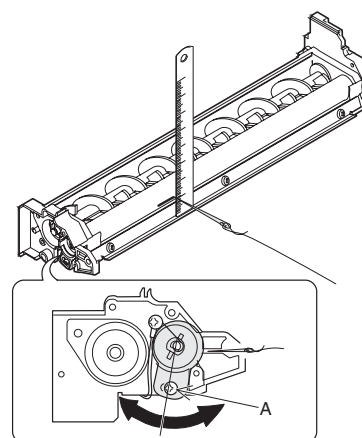
Developing doctor gap

F/R both ends (20mm from the both ends):  $1.5^{+0.1mm}_{-0.15mm}$   
 C (Center)(150mm from the both ends):  $1.55^{+0.15mm}_{-0.2mm}$

##### (2) MG roller main pole position adjustment

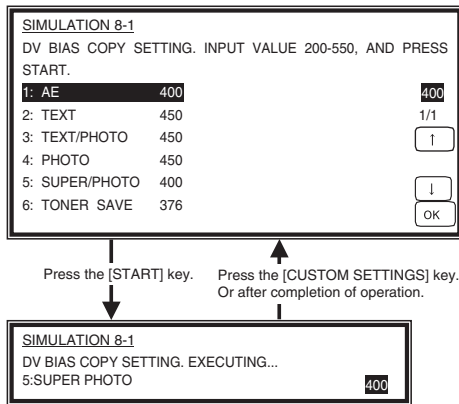
- Put the developing unit on a flat surface.
- Tie a needle or pin on a string.
- Hold the string and bring the needle close to the MG roller horizontally. (Do not use paper clip, which is too heavy to make a correct adjustment.) (Put the developing unit horizontally for this adjustment.)
- Do not bring the needle into contact with the MG roller, but bring it to a position 2 or 3mm apart from the MG roller. Mark the point on the MG roller which is on the extension line from the needle tip.
- Measure the distance from the marking position to the top of the doctor plate of the developing unit to insure that it is 18mm.

If the distance is not within the specified range, loosen the fixing screw A of the main pole adjustment plate, and move the adjustment plate in the arrow direction to adjust.



### (3) Developing bias voltage adjustment (SIM 8-1)

- 1) Execute SIM 8-1.



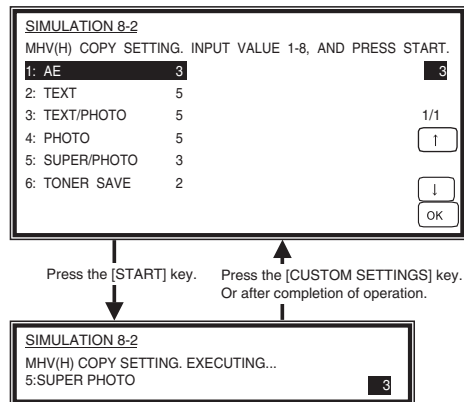
- 2) Touch the exposure mode to be changed.  
The current set value is displayed.
- 3) Enter the set value with the 10-key.
- 4) Press the [START] key.  
Output is made with the entered value, and the display returns to the original state.

#### <Adjustment specification>

| Item          | Content         | Installation range | Default     |
|---------------|-----------------|--------------------|-------------|
| 1 AE          | AE              | 200-550            | 400 (–400V) |
| 2 TEXT        | Character       |                    | 450 (–450V) |
| 3 TEXT/PHOTO  | Character/Photo |                    | 450 (–450V) |
| 4 PHOTO       | Photo           |                    | 450 (–450V) |
| 5 SUPER/PHOTO | Super photo     |                    | 400 (–400V) |
| 6 TONER SAVE  | Toner save      |                    | 376 (–376V) |

### (4) Grid bias voltage adjustment (High mode) (SIM 8-2)

- 1) Execute SIM 8-2.



- 2) Touch the exposure mode to be changed.  
The current set value is displayed.
- 3) Enter the set value with the 10-key.
- 4) Press the [START] key.  
Output is made with the entered value for 30sec, and the display returns to the original state.

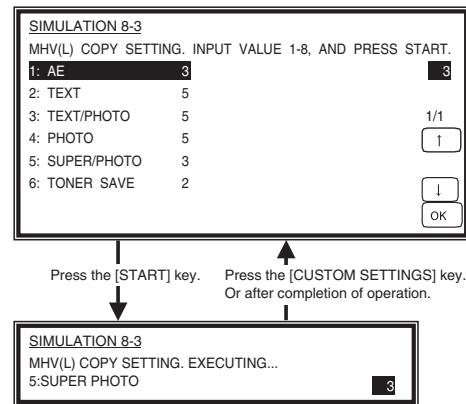
#### <Adjustment specification>

| Item          | Content         | Setting range | Default   |
|---------------|-----------------|---------------|-----------|
| 1 AE          | AE              | 1-8           | 3 (–530V) |
| 2 TEXT        | Character       |               | 5 (–580V) |
| 3 TEXT/PHOTO  | Character/Photo |               | 5 (–580V) |
| 4 PHOTO       | Photo           |               | 5 (–580V) |
| 5 SUPER/PHOTO | Super photo     |               | 3 (–530V) |
| 6 TONER SAVE  | Toner save      |               | 2 (–505V) |

Min. unit: –25V increment

### (5) Grid bias voltage adjustment (Low mode) (SIM 8-3)

- 1) Execute SIM 8-3.



- 2) Touch the exposure mode to be changed.  
The current set value is highlighted.
- 3) Enter the set value with the 10-key.
- 4) Press the [START] key.  
Output is made with the entered value for 30sec, and the display returns to the original state.

#### <Adjustment specification>

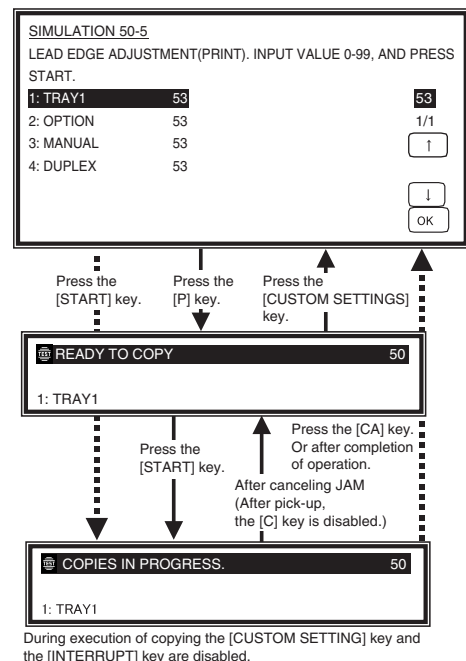
| Item          | Content         | Setting range | Default   |
|---------------|-----------------|---------------|-----------|
| 1 AE          | AE              | 1-8           | 3 (–400V) |
| 2 TEXT        | Character       |               | 5 (–450V) |
| 3 TEXT/PHOTO  | Character/Photo |               | 5 (–450V) |
| 4 PHOTO       | Photo           |               | 5 (–450V) |
| 5 SUPER/PHOTO | Super photo     |               | 3 (–400V) |
| 6 TONER SAVE  | Toner save      |               | 2 (–375V) |

Min. unit: –25V increment

## B. Mechanism section

### (1) Print start position adjustment

- 1) Execute SIM 50-5.

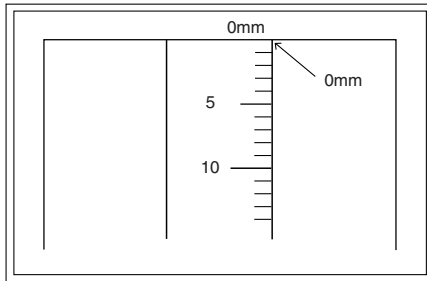


- 2) Touch the item to be adjusted.  
The item and the currently set value are highlighted.
- 3) Press the [P] key.  
The display is shifted to the copy menu.
- 4) Select the paper feed tray, the print density, and the duplex mode.  
Enter the adjustment value with the 10-key.

- 5) Press the [START] key.  
Copying is started.

| Item | Content | Setting range   | Default |
|------|---------|-----------------|---------|
| 1    | TRAY1   | 1st cassette    | 53      |
| 2    | OPTION  | Option cassette |         |
| 3    | MANUAL  | Manual feed     |         |
| 4    | DUPLEX  | Back print      |         |

- 6) Measure the distance H between the paper lead edge and the image print start position. Set the image print start position set value again.
- 1 step of the set value corresponds to about 0.127mm shift.
  - Calculate the set value from the formula below.  
 $99 - H/0.127 \text{ (mm)} = \text{Image print start position set value} <H: \text{Print start position measurement value (mm)}>$

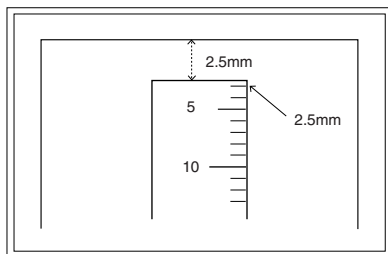


\* Fit the print edge with the paper edge, and perform the lead edge adjustment.

Example:  $99 - 5/0.127 = 99 - 39.4 = \text{about } 59$

Note: If the set value is not obtained from the above formula, perform the fine adjustment.

- 7) Execute SIM 50-1-2 to adjust the main cassette lead edge void.
- 1 step of the set value corresponds to about 0.127mm shift.
  - Calculate the set value from the formula below.  
 $B/0.127 \text{ (mm)} = \text{Lead edge void adjustment value} <B: \text{Lead edge void (mm)}>$



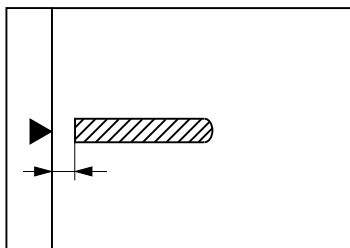
Example: When setting the lead edge void to 2.5mm:  
 $2.5 / 0.127 = \text{about } 20$

<Adjustment specification>

| Adjustment mode              | SIM    | Set value      | Spec value              | Setting range |
|------------------------------|--------|----------------|-------------------------|---------------|
| Main cassette lead edge void | 50-1-2 | B/0.127        | Lead edge void: 1 – 4mm | 1 – 99        |
| Print start position         | 50-5   | $99 - H/0.127$ | Image loss: 3mm or less |               |

## (2) SPF (RSPF) image lead edge position adjustment

- 1) Set a scale on the OC table as shown below.



Note: Since the printed copy is used as a test chart, put the scale in paralleled with the edge lines.

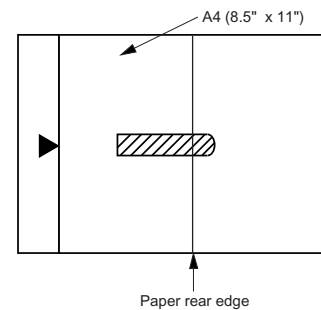
- Make a copy, then use the copy output as an original to make an SPF (RSPF) copy again.
- Check the copy output. If necessary, perform the following adjustment procedures.
- Execute SIM 50-6.
- Set the SPF (RSPF) lead edge position set value so that the same image is obtained as that obtained in the previous OC image lead edge position adjustment.

<Adjustment specification>

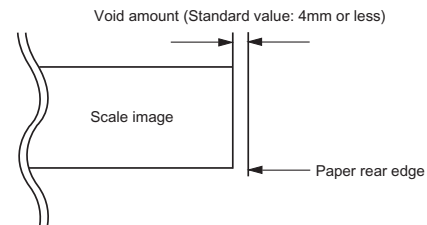
| Adjustment mode                     | SIM  | Set value             | Spec value   | Setting range |
|-------------------------------------|------|-----------------------|--|---------------|
| SPF (RSPF) image lead edge position | 50-6 | 1 step: 0.127mm shift | Lead edge void: 1 – 4mm<br>Image loss: 3mm or less | 1 – 99        |

## (3) Rear edge void adjustment

- 1) Set a scale as shown in the figure below.



- Set the document size to A4 (8.5" x 11"), and make a copy at 100%.
- If an adjustment is required, follow the procedures below.



- Execute SIM 50-1 and set the density mode to DEN-B. The currently set adjustment value is displayed.
- Enter the set value and press the start key.  
The correction value is stored and a copy is made.

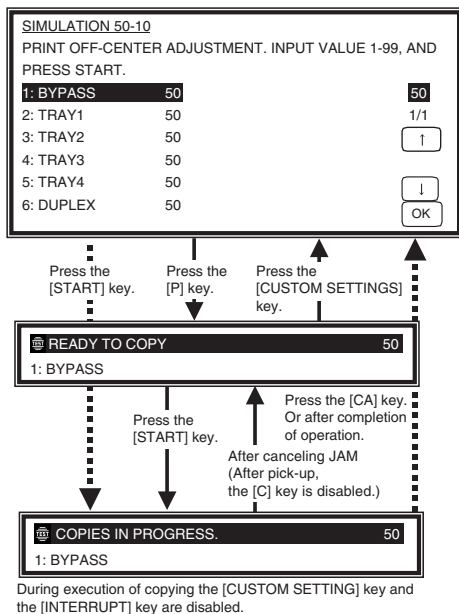
<Adjustment specification>

| Adjustment mode | SIM    | Set value             | Spec value  | Setting range |
|-----------------|--------|-----------------------|-------------|---------------|
| Rear edge void  | 50-1-6 | 1 step: 0.127mm shift | 4mm or less | 1 – 99        |



#### (4) Paper off center adjustment

- 1) Set a test chart (UKOG-0089CSZZ) on the document table.
- 2) Select a paper feed port and make a copy.
- 3) Execute SIM 50-10.



- 4) Touch the item to be adjusted.  
The item and the currently set value are highlighted.
- 5) Press the [START] key.  
The display is shifted to the copy menu.
- 6) Select the paper feed tray and the print density.  
Enter the adjustment value with the 10-key.
- 7) Press the [START] key.  
Copying is started.

| Item | Content | Setting range | Default |
|------|---------|---------------|---------|
| 1    | BYPASS  | 1-99          | 50      |
| 2    | TRAY1   |               |         |
| 3    | TRAY2   |               |         |
| 4    | TRAY3   |               |         |
| 5    | TRAY4   |               |         |
| 6    | DUPLEX  |               |         |

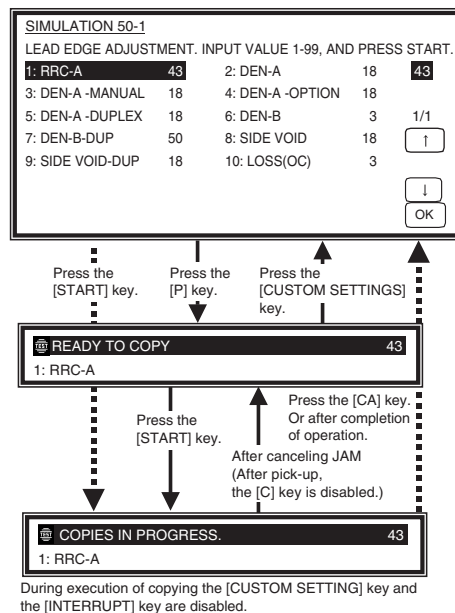
#### <Adjustment specification>

| Adjustment mode                 | SIM         | Set value                                    | Spec value                  | Setting range |
|---------------------------------|-------------|--|-----------------------------|---------------|
| Paper off center                | 50-10<br>-2 | Add 1: 0.127mm shift to R side.<br>Reduce 1: | Single:<br>Center<br>±2.0mm | 1 – 99        |
| Second print surface off-center | 50-10<br>-6 | 0.127mm shift to L side.                     | Duplex:<br>Center<br>±2.5mm |               |

#### (5) Left edge void area adjustment

Note: Before performing this adjustment, be sure to check that the paper off center adjustment (SIM 50-10) is completed.

- 1) Execute SIM 50-1.



- 2) Note down the adjustment value of SIM 50-5 (Items 1, 2, 3, 4), and change the value to 99.
- 3) Set SIM 50-1 (Items 2, 3, 4, 5) to 1. (By setting to 1, there is no void.)
- 4) Place a chart with a clear lead edge (or a ruler) on the OC document table.
- 5) Use SIM 50-1 (Item 1) to execute test print. Check the print out and adjust so that the lead edge image is printed. (1 – 99: About 0.127mm/Step)
- 6) Reset the adjustment values of SIM 50-5 (Items 1, 2, 3, 4) to the original values, and execute test print. Check the print out and adjust so that the lead edge image is printed on the lead edge of paper. (1 – 99: About 0.127mm/Step).
- 7) Adjust SIM 50-1 (Items 2, 3, 4, 5) so that the lead edge void on the print out is the specified value. (1 – 99: About 0.127mm/Step)
- 8) Similar to procedure 7, adjust SIM 50-1 (Item 6, 7) so that the rear edge void is the specified value. (1 – 99: About 0.127mm/Step)
- 9) Similar to procedure 7, adjust SIM 50-1 (Item 8, 9) so that the left edge void is the specified value. (1 – 99: About 0.127mm/Step)
- 10) Make an enlargement copy (400%), and check that there is no shade of the cabinet printed at the lead edge.
- 11) If there is a shade printed at the lead edge in procedure 9, adjust SIM 50-1 (Item 10). (1 – 5: About 0.677mm)  
\* If there is no problem, set to 3.

| Item | Content      | Setting range   | Default    |
|------|--------------|---|------------|
| 1    | RRC-A        | Original scan start position adjustment<br>Lead edge position adjustment value (OC) | 1-99<br>43 |
| 2    | DEN-A        | Lead edge cancel adjustment (Main cassette)   | 1-99<br>18 |
| 3    | DEN-A-MANUAL | Lead edge cancel adjustment (Manual feed cassette)                                  | 1-99<br>18 |
| 4    | DEN-A-OPTION | Lead edge cancel adjustment (Option cassette)                                       | 1-99<br>18 |
| 5    | DEN-A-DUPLEX | Lead edge cancel adjustment (back of the machine)                                   | 1-99<br>18 |
| 6    | DEN-B        | Rear edge void adjustment   | 1-99<br>30 |

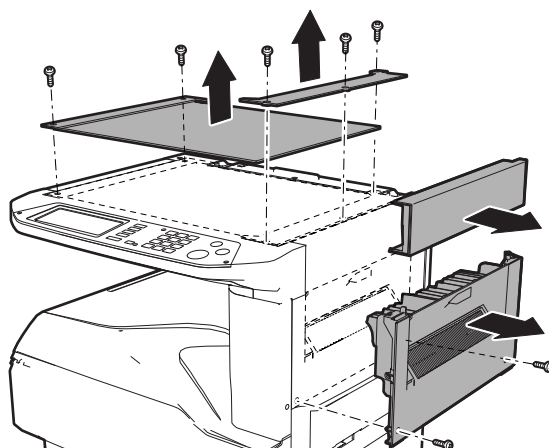
| Item |               | Content  | Setting range | Default |
|------|---------------|--|---------------|---------|
| 7    | DEN-B-DUP     | Rear edge void adjustment (Duplex)                                 | 1-99          | 50      |
| 8    | SIDE VOID     | Left edge void adjustment (First print surface)                    | 1-99          | 18      |
| 9    | SIDE VOID-DUP | Left edge void adjustment (Duplex)                                 | 1-99          | 18      |
| 10   | LOSS(OC)      | Image loss amount adjustment (Lead edge image loss set value) (OC) | 1-5           | 3       |

**<Adjustment specification>**

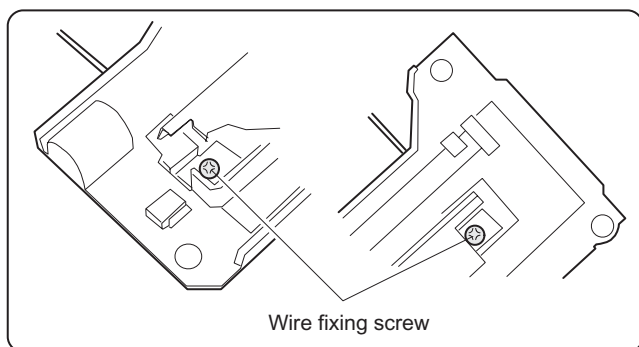
| Adjustment mode | SIM    | Set value             | Spec value | Setting range |
|-----------------|--------|-----------------------|------------|---------------|
| Left edge void  | 50-1-8 | 1 step: 0.127mm shift | 0.5 – 4mm  | 1 – 99        |

**(6) Main scanning direction (FR direction) distortion balance adjustment**

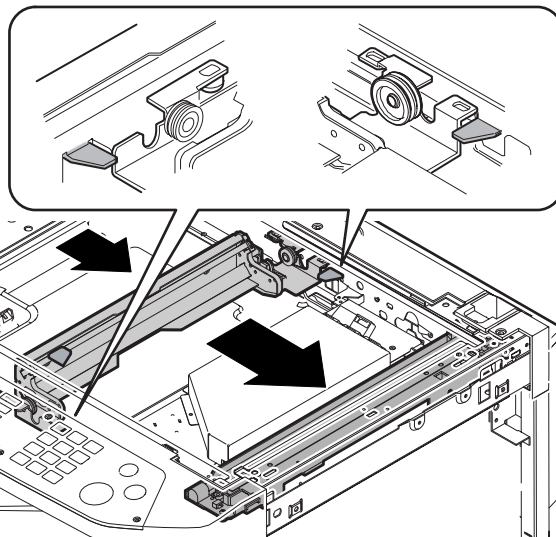
- 1) Remove the OC glass, the right cabinet and the upper right side cover.



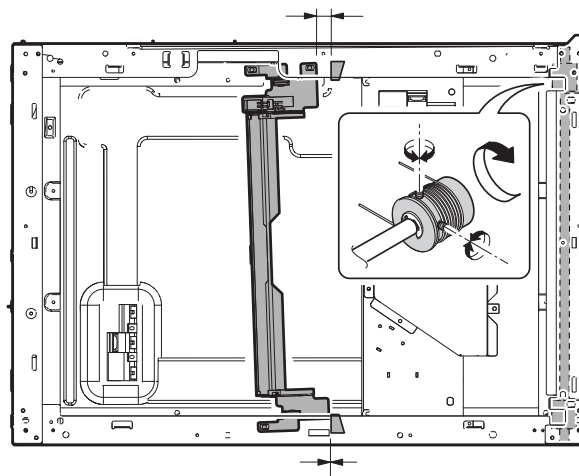
- 2) Loosen the copy lamp unit wire fixing screw.



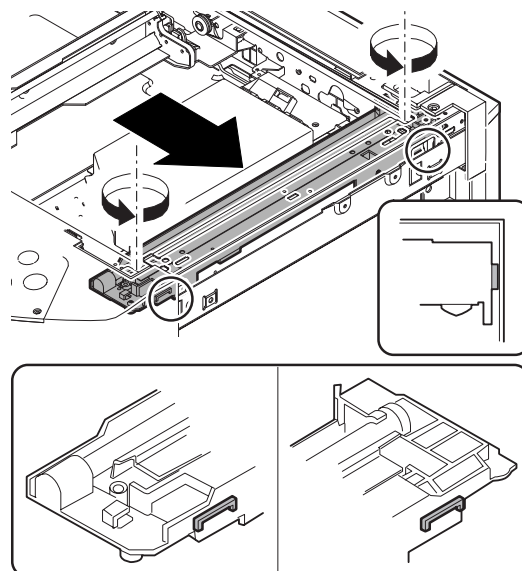
- 3) Manually turn the mirror base drive pulley and bring No. 2/3 mirror base unit into contact with the positioning plate.  
At that time, if the front frame side and the rear frame side of No. 2/3 mirror base unit are brought into contact with the positioning plate at the same time, the mirror base unit parallelism is proper.  
If one of them is in contact with the positioning plate, perform the adjustment of 4).



- 4) Loosen the set screw of the scanner drive pulley which is not in contact with No. 2/3 mirror base unit positioning plate.
- 5) Without moving the scanner drive pulley shaft, manually turn the scanner drive pulley until the positioning plate is brought into contact with No. 2/3 mirror base unit, then fix the scanner drive pulley.



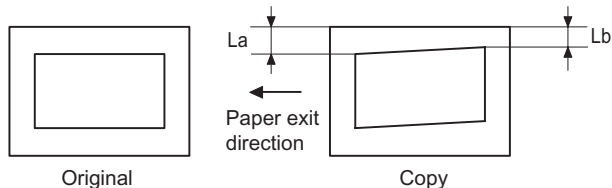
- 6) Put No. 2/3 mirror base unit on the positioning plate again, push the projections on the front frame side and the rear frame side of the copy lamp unit to the corner frame, and tighten the wire fixing screw.



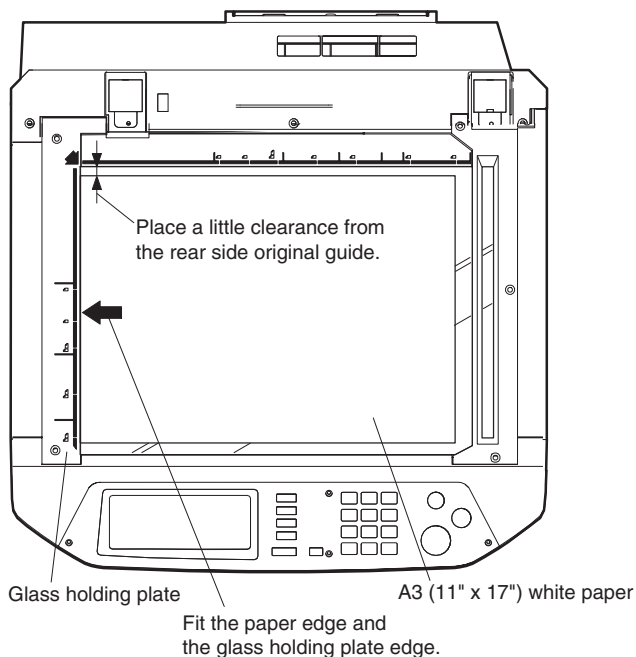
## (7) Sub scanning direction (scanning direction) distortion adjustment (Winding pulley position adjustment)

This adjustment must be performed in the following cases:

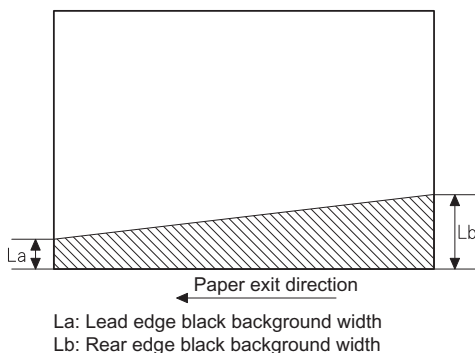
- When the mirror base drive wire is replaced.
- When the lamp unit, or No. 2/3 mirror holder is replaced.
- When a copy as shown is made.



- 1) Set A3 (11" x 17") white paper on the original table as shown below.



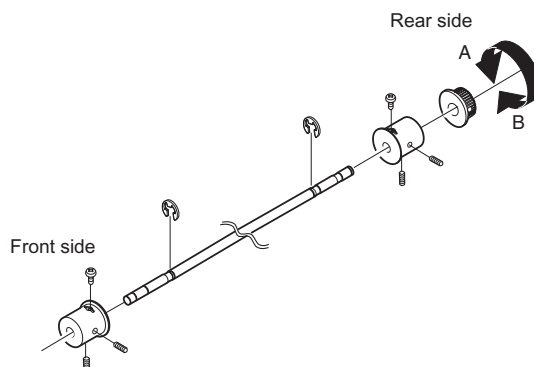
- 2) Open the original cover and make a normal (100%) copy.
- 3) Measure the width of the black background at the lead edge and at the rear edge.



If the width (La) of the black background at the lead edge is equal that (Lb) at the rear edge, there is no need to execute the following procedures of 4) – 7).

- 4) Loosen the mirror base drive pulley fixing screw on the front frame side or on the rear frame side.

- When  $La < Lb$   
Turn the mirror base drive pulley on the front frame side in the arrow direction A. (Do not move the mirror base drive pulley shaft.)
- When  $La > Lb$   
Turn the mirror base drive pulley on the rear frame side in the arrow direction A. (Do not move the mirror base drive pulley shaft.)



- 5) Tighten the fixing screw of the mirror base drive pulley.

### <Adjustment specification>

$La = Lb$

- 6) Execute the main scanning direction (FR) distortion balance adjustment previously described in 2) again.

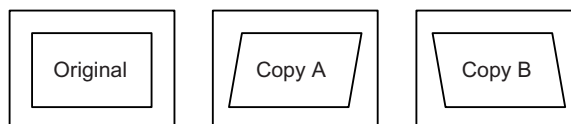
## (8) Main scanning direction (FR direction) distortion balance adjustment (Rail height adjustment)

When there is no skew copy in the mirror base scanning direction and there is no horizontal error (right angle to the scanning direction), the adjustment can be made by adjusting the No. 2/3 mirror base unit rail height.

Before performing this adjustment, be sure to perform the horizontal image distortion adjustment in the laser scanner section.

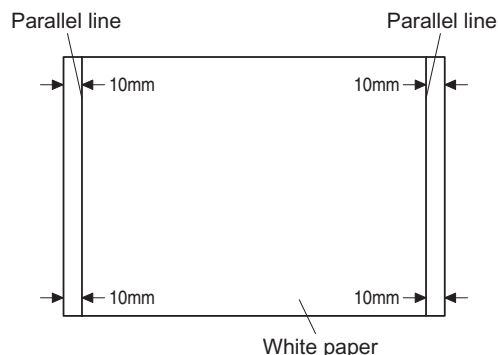
This adjustment must be performed in the following cases:

- When the mirror base wire is replaced.
- When the copy lamp unit and no. 2/3 mirror unit are replaced.
- When the mirror unit rail is replaced and moved.
- When a following copy is made.



- 1) Make an original for the adjustment.

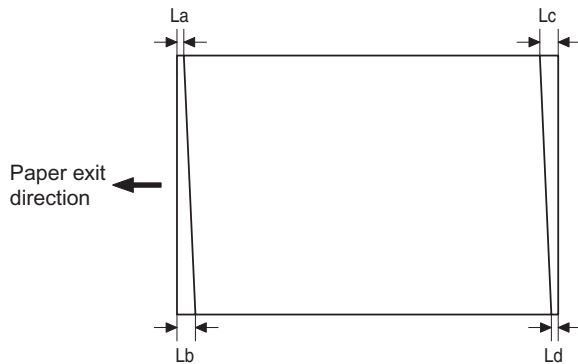
Make test sheet by drawing parallel lines at 10mm from the both ends of A3 (11" x 17") white paper as shown below. (These lines must be correctly parallel to each other.)



- 2) Make a normal (100%) copy of the test sheet on A3 (11" x 17") paper. (Fit the paper edge and the glass holding plate edge.)

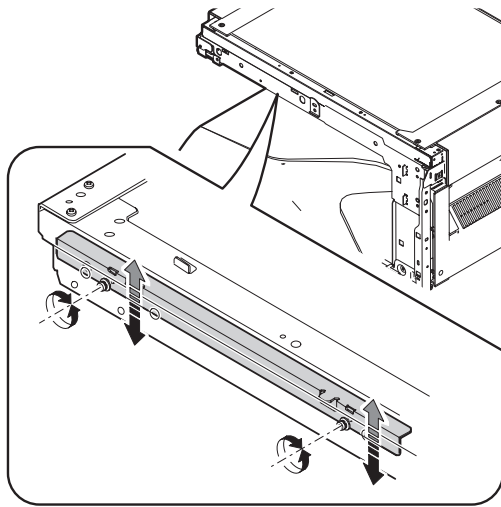


- 3) Measure the distances (La, Lb, Lc, Ld) at the four corners as shown below.



When  $La = Lb$  and  $Lc = Ld$ , no need to perform the procedures 4) and 5).

- 4) Move the mirror base B rail position up and down (in the arrow direction) to adjust.



- When  $La > Lb$   
Shift the mirror base B rail upward by the half of the difference of  $La - Lb$ .
  - When  $La < Lb$   
Shift the mirror base B rail downward by the half of the difference of  $Lb - La$ .  
Example: When  $La = 12\text{mm}$  and  $Lb = 9\text{mm}$ , shift the mirror base B rail upward by 1.5mm.
  - When  $Lc > Ld$   
Shift the mirror base B rail downward by the half of the difference of  $Lc - Ld$ .
  - When  $Lc < Ld$   
When  $Lc < Ld$ , move the mirror base B on the paper feed side upward.
- \* When moving the mirror base rail, hold the mirror base rail with your hand.

#### <Adjustment specification>

$La = Lb$ ,  $Lc = Ld$

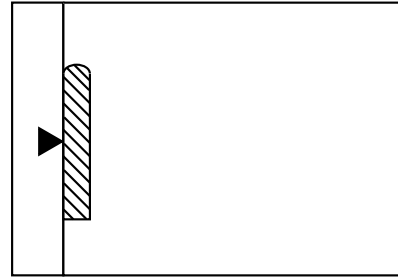
- 5) After completion of adjustment, manually turn the mirror base drive pulley, scan the mirror base A and mirror base B fully, and check that the mirror bases are not in contact with each other.

\* If the mirror base rail is moved extremely, the mirror base may be in contact with the frame or the original glass. Be careful to avoid this.

#### (9) Main scanning direction (FR direction) magnification ratio adjustment (SIM 48-1)

Note: Before performing this adjustment, be sure to check that the CCD unit is properly installed.

- 1) Put a scale on the original table as shown below.



- 2) Execute SIM 48-1.
- 3) After warm-up, shading is performed and the current set value of the main scanning direction magnification ratio is displayed on the display section in 2 digits.

- 4) Manual correction mode (SIM48-1-1)

Enter the set value and press the start key.

The correction value is stored and a copy is made.

#### <Adjustment specification>

Note: A judgment must be made with 200mm width, and must not be made with 100mm width.

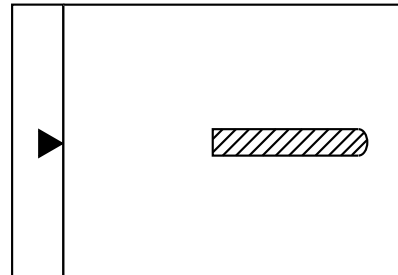
| Adjustment mode                             | Spec value             | SIM    | Set value                                       | Setting range |
|---|------------------------|--------|---|---------------|
| Main scanning direction magnification ratio | At normal: $\pm 1.0\%$ | 48-1-1 | Add 1: 0.1% increase<br>Reduce 1: 0.1% decrease | 1 - 99        |

#### (10) Sub scanning direction (scanning direction) magnification ratio adjustment (SIM 48-1-2)

##### a. OC mode in copying

Note: Execute the procedure after completion of SIM 48-1-2.

- 1) Put a scale on the original table as shown below, and make a normal (100%) copy.



- 2) Compare the scale image and the actual scale.  
If necessary, perform the following adjustment procedures.
- 3) Execute SIM 48-1-2.
- 4) Enter the set value and press the start key.  
The set value is stored and a copy is made.

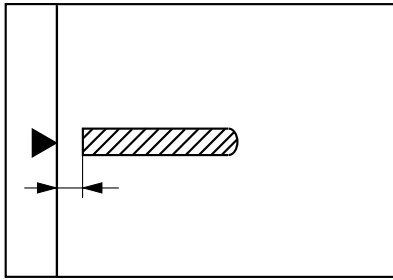
#### <Adjustment specification>

| Adjustment mode                                      | Spec value             | SIM    | Set value   | Setting range |
|--|------------------------|--------|---|---------------|
| Sub scanning direction magnification ratio (OC mode) | At normal: $\pm 1.0\%$ | 48-1-2 | Add 1: 0.05% increase<br>Reduce 1: 0.05% decrease | 1 - 99        |

##### b. RSPF sub scanning direction magnification ratio

Note: Before performing this adjustment, be sure to check that the CCD unit is properly installed and that OC mode adjustment in copying has been completed.

- 1) Put a scale on the original table as shown below, and make a normal (100%) copy.



Note: Since the printed copy is used as a test chart, put the scale in parallel with the front side edge of the glass.

- 2) Set the test chart on the RSPF and make a normal (100%) copy.
- 3) Compare the scale image and the actual image.  
If necessary, perform the following adjustment procedures.
- 4) Execute SIM 48-1-3.
- 5) After warm-up, shading is performed.  
The current front surface sub scanning direction magnification ratio correction value is displayed in two digits on the display section.
- 6) Enter the set value and press the start key.  
The set value is stored and a copy is made.
- 7) Execute SIM 48-1-4.  
The current back surface sub scanning direction magnification ratio is displayed in two digits on the display section.
- 8) Enter the set value and press the start key.  
The set value is stored and a copy is made.

#### <Adjustment specification>

| Adjustment mode                                       | Spec value             | SIM              | Set value   | Setting range |
|---|------------------------|------------------|---|---------------|
| Sub scanning direction magnification ratio (SPF mode) | At normal: $\pm 1.0\%$ | 48-1-3<br>48-1-4 | Add 1: 0.05% increase<br>Reduce 1: 0.05% decrease | 1 – 99        |

#### (11) Off center adjustment (RSPF mode)

Note: Before performing this adjustment, be sure to check that the paper off center is properly adjusted.

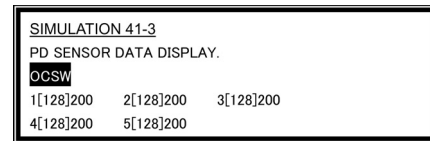
- 1) Place the center position adjustment test chart (sheet with a straight line in the scan direction at the center) on the RSPF.
- 2) Make a normal copy from the manual paper feed tray, and check the printed copy with the test chart.  
If any adjustment is required, perform the following procedure.
- 3) Execute SIM 50-12.
- 4) After warm-up, shading is performed and the current set value of the off center adjustment is displayed on the display section in 2 digits.
- 5) Enter the set value and press the start key.  
The set value is stored and a copy is made.

#### <Adjustment specification>

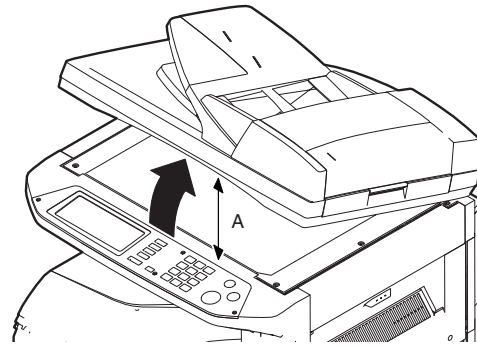
| Adjustment mode                      | Spec value                        | SIM   | Set value                       | Setting range |
|--------------------------------------|-----------------------------------|-------|---------------------------------|---------------|
| Original off center mode (RSPF mode) | Single: Center $\pm 3.0\text{mm}$ | 50-12 | Add 1: 0.1mm shift to R side    | 1 – 99        |
|                                      | Duplex: Center $\pm 3.5\text{mm}$ |       | Reduce 1: 0.1mm shift to L side |               |

#### (12) OC (SPF) open/close detection position adjustment

- 1) Execute SIM 41-3.
- 2) Gradually close the OC (SPF) from the full open position, and measure distance A when the display on the operation panel changes. (See the figure below.)



Distance A = Table glass top - OC (RSPF) handle rib

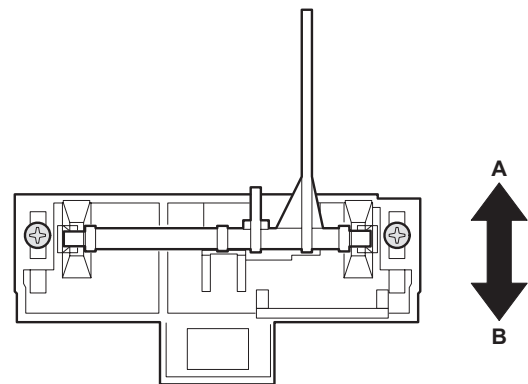


#### <Adjustment specification>

OC (SPF) open/close position A: 125 – 225mm

- 3) If the distance is outside the specified range, adjust the open/close sensor attachment plate position as shown below.

- Distance < 125mm: Shift toward A.
- Distance > 225mm: Shift toward B.



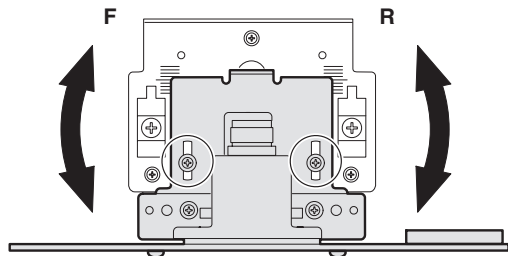
#### (13) Original sensor adjustment (SIM 41-2, 41-4)

- 1) Set A3 (11" x 17") paper on the OC table.  
(Keep the SPF (OC cover) open.)
- 2) Execute SIM 41-2.
- 3) Keep A=125mm, and execute SIM 41-4. (Do not put paper on the table.)
- 4) Check the reaction with SIM 41-1.

#### (14) RSPF white correction pixel position adjustment (required in an RSPF model when replacing the lens unit) (SIM63-7)

- 1) Fully open the RSPF.
- 2) Execute SIM 63-7.
- 3) When the operation panel displays "COMPLETE," the adjustment is completed.
- 4) If the operation panel displays "ERROR," perform the following measures.
  - When the display is 0:
    - Check that the SPF is open.
    - Check that the lamp is ON. (If the lamp is OFF, check the MCU connector.)
    - Check that the CCD harness is properly inserted into the MCU connector.
  - When the display is 281 or above:
    - 1) Remove the table glass.
    - 2) Remove the dark box.

- 3) Slide the lens unit toward the front side and attach it, then execute SIM.
- When the display is 143 or below:
  - 1) Remove the table glass.
  - 2) Remove the dark box.
  - 3) Slide the lens unit toward the rear side and attach it, then execute SIM.



- \* When the lens unit is moved, execute the OC main scanning magnification ratio auto adjustment, SIM 48-1-1.
- \* This adjustment is basically O.K. with SIM 63-7.

### (15) RSPF scan position auto adjustment

#### [Function]

Used to adjust the RSPF scan position automatically.

#### [Operation]

- 1) With the RSPF or the OC cover open, place a chart of black background on the OC glass. (In the RSPF standard model, the RSPF glass surface is included.)

- \* Use a black chart (UKOG-0011QSZZ) or prepare a chart as shown below.  
Chart size: 310 x 470, prepared with cutting sheet No. 791 (Black) or an equivalent one.

Reason: To prevent erroneous detection by disturbing light of a fluorescent lamp, etc.

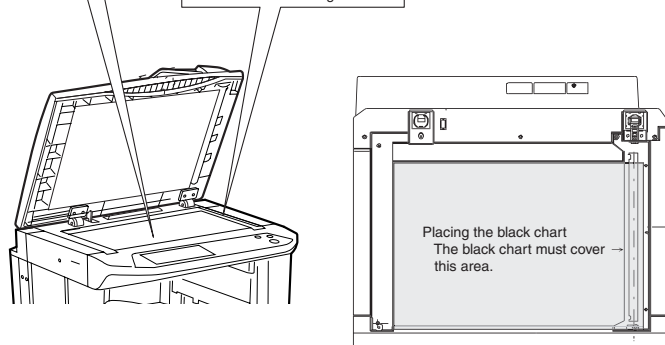
- 2) Enter SIM53-08, and press [START] button.  
Outline of SIM: The optical unit is shifted to recognize the boundary between the OC glass and the RSPF glass cover.  
With the same position as the reference, the RSPF scan position is automatically adjusted.

#### <Note>

- After completion of the RSPF scan position auto adjustment, the SPF lead edge adjustment must be executed. (Both surfaces)
  - There must be no other sheet than the black chart on the glass surface.
  - Especially when in RSPF scan, the center area is scanned in the main scan direction. Be careful to prevent external light from entering the scan area.
- 3) Check that the lead edge is not shifted. (Both surfaces)  
(If the original lead edge adjustment has been made properly, even when the scan position is shifted, it is followed automatically.)

Place only the black chart on the OC glass.

For the RSPF standard-provision machine, check that the black chart covers the SPF glass.

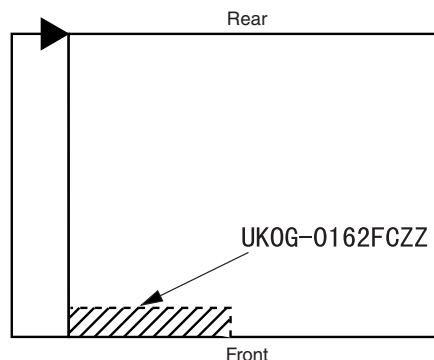


- 4) Change the adjustment value of the RSPF scan end position.  
(Change the adjustment value of SIM50-6-3 from 50 to 36.)  
Change the number of steps for Pin off – scan end position from 1,014 to 986.  
Be sure to execute this adjustment because an image may be cut off during FAX transmission though copying is normally performed.
- 5) Change the initial value of the RSPF exposure adjustment (SIM46-20) from 50 to 53.  
(For the CCD exposure adjustment with RSPF, use the value of the OC adjustment value +3.)  
There are suffixes of -1 SPF and -2 RSPF. Change each of them.

### C. Image density (exposure) adjustment

#### (1) Copy mode (SIM46-2)

- 1) Set a test chart (UKOG-0162FCZZ) on the OC table as shown below.



- 2) Place three or more sheets of A3 (11" x 17") paper on the test chart.
- 3) Execute SIM 46-2.
- 4) After warm-up, shading is performed and the current set value of the density (exposure) level is displayed on the display section in 2 digits.  
For mode selection, use the [10-key].
- 5) Change the set value with the [10-key] to adjust the copy image density.
- 6) Make a copy and check that the specification below is satisfied.

Note: Place originals in the rear reference, and the test chart in the front reference when adjusting the exposure.

#### <Adjustment specification>

| Density mode            | Exposure level | Sharp Gray Chart output | Set value  | Setting range |
|-------------------------|----------------|-------------------------|--|---------------|
| AUTO                    | –              | "3" is copied.          | If too bright, increase the quantity displayed on the copy quantity display.<br>If too dark, decrease the quantity displayed on the copy quantity display. | 0 – 99        |
| TEXT                    | 1.0            | "7" is copied.          |  |               |
|                         | 3.0            | "3" is copied.          |  |               |
|                         | 5.0            | "2" is copied.          |  |               |
| TEXT/PHOTO              | 1.0            | "6" is copied.          |  |               |
|                         | 3.0            | "3" is copied.          |  |               |
|                         | 5.0            | "2" is copied.          |  |               |
| PHOTO                   | 1.0            | "5" is copied.          |  |               |
|                         | 3.0            | "3" is copied.          |  |               |
|                         | 5.0            | "2" is copied.          |  |               |
| SUPER PHOTO             | 1.0            | "5" is copied.          |  |               |
|                         | 3.0            | "3" is copied.          |  |               |
|                         | 5.0            | "2" is copied.          |  |               |
| AE (TONER SAVE)         | –              | "3" is copied.          |  |               |
| TEXT (TONER SAVE)       | 1.0            | "7" is copied.          |  |               |
|                         | 3.0            | "3" is copied.          |  |               |
|                         | 5.0            | "2" is copied.          |  |               |
| TEXT PHOTO (TONER SAVE) | 1.0            | "6" is copied.          |  |               |
|                         | 3.0            | "3" is copied.          |  |               |
|                         | 5.0            | "2" is copied.          |  |               |

## [8] SIMULATION

### (Diagnostics, setup, adjustment value input, data display)

#### 1. Outline and purpose

The simulation has the following functions to grasp the machine operating status, identify the trouble position and causes in an earlier stage, and make various setups and adjustments speedily for improving the serviceability of the machine.

- 1) Various adjustments
- 2) Setup of specifications and functions
- 3) Canceling troubles
- 4) Operation check
- 5) Various counters check, setup, and clear
- 6) Machine operating status (operation history) data check, clear
- 7) Transfer of various data (adjustments, setup, operations, counters)

The operating procedures and the displays differ depending on the form of the operation panel of the machine.

#### 2. Code-type simulation

##### A. Operating procedures and operations

\* Entering the simulation mode

- 1) #/P key (program) ON → Asterisk (\*) key ON → CLEAR key ON → Asterisk (\*) key ON → Ready for input of a main code of simulation
- 2) Entering a main code with the 10-key → START key ON
- 3) Entering a sub code with the 10-key → START key ON
- 4) Select an item with the scroll key and the item key.
- 5) The machine enters the mode corresponding to the selected item.  
Press START key to start the simulation operation.  
To cancel the current simulation mode or to change the main code and the sub code, press the CUSTOM SETTINGS key.

\* Canceling the simulation mode to return to the normal mode

- 1) Press CLEAR ALL key.

##### B. How to change the simulation adjustment value set by the touch panel in the adjustment value entry process

###### (1) Target SIM list

3-7, 8-1, 8-2, 8-3, 8-10, 8-11, 8-12, 9-5, 43-1, 44-34, 46-2, 46-7, 46-9, 46-10, 46-11, 46-18, 46-20, 46-30, 46-31, 48-1, 48-2, 50-1, 50-5, 50-6, 50-10, 50-12, 51-1, 51-2, 51-9, 53-7

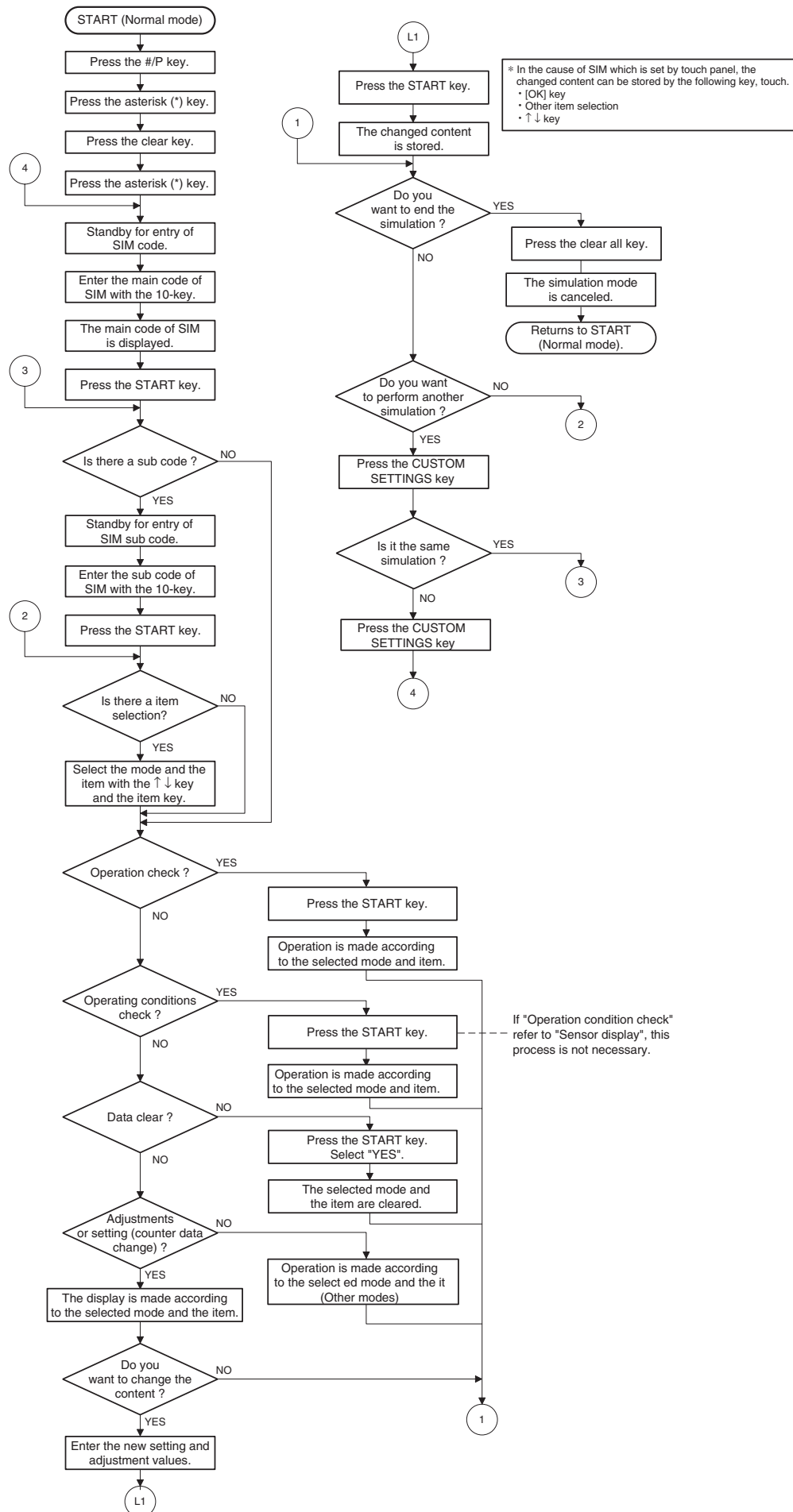
###### (2) Touch panel operating procedure

- In the adjustment value setup menu, the selected item is highlighted. Change is made to the highlighted simulation adjustment value.
- If all the list of the adjustment items is not shown on one page, touch [↑] and [↓] button to shift the page.
- To change an adjustment value, touch the select the item to change the adjustment value. (The selected item is highlighted.) Enter the adjustment value and perform one of the following procedures, and the display of the adjustment value of the selected item is renewed as well as the adjustment value.
  - 1) Touch [OK] button.
  - 2) Touch another selected item to change the selection state.
  - 3) If all the list of the adjustment items cover two or more pages, touch [↑] and [↓] button to shift the page.

- 4) Press [START] key.

\* For simulations which allow confirmation print, copying is started after changing the adjustment value.  
(46-2, 46-7, 46-9, 46-10, 46-11, 46-18, 48-1, 48-2, 50-1, 50-5, 50-6, 50-10, 50-12, 51-2, the bold-faced items in the above list.)

\* If the entry value is outside the adjustable range, an error buzzer sounds and the adjustment value is not renewed. Page shift is not made, either.



### 3. Simulation code list

| Code |     | Function  |
|------|-----|---|
| Main | Sub |   |
| 1    | 1   | Used to check the operation of the scanner unit and its control circuit.  |
|      | 2   | Used to check the operation of sensor and detector in the scanning (read) section and the related circuit.  |
| 2    | 1   | Used to check the operation of the SPF/RSPF unit and the related circuit.   |
|      | 2   | Used to check the operation of sensors and detectors in the SPF/RSPF unit and the related circuit.  |
|      | 3   | Used to check the operation of the loads in the SPF/RSPF unit and the control circuits.   |
| 3    | 2   | Used to check the operation of sensor and detector in the finisher and the related circuit.   |
|      | 3   | Used to check the operation of the load in the finisher and the control circuit.  |
|      | 6   | Used to adjust the alignment position (side regulation plate, rear edge regulation plate) for each paper size. Shifts to the specified paper size position. |
|      | 7   | Used to adjust the offset tray operations.  |
| 4    | 2   | Used to check the operation of sensor and detector in the option cassette and the related circuit.  |
|      | 3   | Used to check the operation of the load in the option tray and the control circuit.   |
| 5    | 1   | Used to check the operation of the display (LED), LCD in the operation panel, and control circuit.  |
|      | 2   | Used to check the operation of the heater lamp and the control circuit.   |
|      | 3   | Used to check the operation of the copy lamp and the control circuit.   |
| 6    | 1   | Used to check the operation of the loads (clutches and solenoids) in the paper transport system and the control circuit.                                    |
|      | 2   | Used to check the operation of each fan motor and its control circuit.  |
| 7    | 1   | Used to set the aging operation conditions.   |
|      | 6   | Used to set the cycle of intermittent aging.  |
|      | 8   | Used to set the display of the warm-up time.  |
| 8    | 1   | Used to check and adjust the operation of the developing bias voltage in each copy mode and the control circuit.  |
|      | 2   | Used to check and adjust the operation of the main charger grid voltage (high mode) in each copy mode and the control circuit.                              |
|      | 3   | Used to check and adjust the operation of the main charger grid voltage (low mode) in each copy mode and the control circuit.                               |
|      | 10  | Used to check and adjust the operation of the developing bias voltage in each printer mode and the control circuit.   |
|      | 11  | Used to check and adjust the operation of the main charger grid voltage (high mode) in each printer mode and the control circuit.                           |
| 12   | 12  | Used to check and adjust the operation of the main charger grid voltage (low mode) in each printer mode and the control circuit.                            |

| Code |     | Function   |
|------|-----|--|
| Main | Sub |  |
| 8    | 13  | Used to check and adjust the operation of the developing bias voltage in FAX mode and the control circuit.   |
|      | 14  | Used to check and adjust the operation of the main charger grid voltage (high mode) in FAX mode and the control circuit.   |
|      | 15  | Used to check and adjust the operation of the main charger grid voltage (low mode) in FAX mode and the control circuit.  |
| 9    | 1   | Used to check and adjust the operation of the load (motor) in the duplex section and the control circuit.  |
|      | 4   | Duplex motor RPM setting   |
|      | 5   | Used to adjust the timing of switching from normal rotation to reverse rotation or from reverse rotation to normal rotation of the duplex motor.   |
| 10   | 0   | Used to check the operation of the toner motor and its control circuit.  |
| 14   | 0   | Used to cancel excluding the self-diag U2/PF troubles.   |
| 16   | 0   | Used to cancel the self-diag U2 trouble.   |
| 17   | 0   | Used to cancel the self diag "PF" trouble.   |
| 21   | 1   | Used to set the maintenance cycle.   |
| 22   | 1   | Used to check the counter value of each section.   |
|      | 2   | Used to check the total numbers of misfeed and troubles. (When the number of misfeed is considerably great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value with the total counter value.) |
|      | 3   | Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)  |
|      | 4   | Used to check the total trouble (self diag) history.   |
|      | 5   | Used to check the ROM version of each unit (section).  |
|      | 6   | Used to print each key operator setting, the account information, and the machine adjustment values.   |
|      | 7   | Used to display the key operator code. (Use when the customer key operator code is forgotten.)   |
|      | 8   | Used to display the original, staple counter.  |
|      | 9   | Used to check the number of use of each paper feed section. (the number of prints)   |
|      | 10  | Used to check the system configuration.  |
|      | 11  | Used to display the FAX send/receive counter (FAX reception and print counter).  |
|      | 12  | Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.)  |
|      | 13  | Used to display the CRUM type.   |
| 24   | 19  | Used to display the scanner counter in the network scanner mode.   |
|      | 1   | Used to clear the misfeed counter, the misfeed history, the trouble counter, and the trouble history. (The counters are cleared after completion of maintenance.)  |
|      | 2   | Used to clear the number of use (the number of prints) of each paper feed section.   |
|      | 3   | Used to clear the number data of use of the staple, the SPF/RSPF and scanning.   |
|      | 4   | Used to reset the maintenance counter.   |
|      | 5   | Used to reset the developer counter. (The developer counter of the DV unit which is installed is reset.)   |
| 6    | 6   | Used to clear the copy counter.  |

| Code |     | Function  |
|------|-----|---|
| Main | Sub |   |
| 24   | 7   | Used to clear the OPC drum (membrane decrease) correction counter. (This simulation is executed when the OPC drum is replaced.)   |
|      | 9   | Used to clear the printer counter and other counters. (The counter is cleared after completion of maintenance.)   |
|      | 10  | FAX counter data clear  |
|      | 15  | Used to clear the scanner counter in the network scanner mode.  |
| 25   | 1   | Used to check the operation of the main drive (excluding the scanner section) and to check the operation of the toner concentration sensor. (The toner concentration sensor output can be monitored.) (To be supported for Ver.00.72 or later)                |
|      | 2   | Used to make the initial setting of toner concentration when replacing developer.   |
| 26   | 1   | Used to set whether the job separator is installed or not. (Since this cannot be detected by hardware detection, it is set in this simulation.)   |
|      | 2   | Used to set whether the automatic detection of paper size is made or not.   |
|      | 3   | Used to set the specifications of the auditor. Setting must be made depending on the use condition of the auditor.  |
|      | 5   | Used to set the count mode of the total counter and the maintenance counter.  |
|      | 6   | Used to set the specifications depending on the destination.  |
|      | 10  | Network scanner trial mode setting  |
|      | 12  | Used to input the Software Key for E-MAIL RIC.  |
|      | 14  | Used to input the Software Key for the PS extension kit.  |
|      | 18  | Used to set enable/disable of toner save operation.   |
|      | 22  | Used to set the specification (language display) for the destination.   |
|      | 30  | Used to set ON/OFF of the heater lamp slow-up control conforming to the CE mark control.  |
|      | 35  | Used to set whether the same continuous troubles are displayed as one trouble or the series of troubles with SIM 22-4 when the same troubles occur continuously.  |
|      | 36  | Used to set whether the machine is stopped or not when the maintenance counter life is expired.   |
|      | 41  | Used to set ON/OFF of the automatic magnification ratio selection (AMS) when setting the binding function.  |
|      | 46  | Used to set whether to meet with the output direction of images regardless of the mode when installing the finisher.  |
|      | 50  | Used to set ON/OFF of the black and white reversion function.   |
|      | 57  | Used to set the model code.   |
|      | 60  | Used to set enable/disable of the FAX mode key when FAX is not installed. (When FAX is installed, the FAX mode is enabled regardless of this setup.)  |
|      | 71  | In the power save time setting, the pre-heat (pre-heat mode setting) and the auto power shut off time can be set to the short time setup (pre-heat: 1 min, auto power shut off: 4 min) and the long time setup (pre-heat: 15min, auto power shut off: 60min). |
| 27   | 1   | Used to set PC/MODEM communication trouble (U7-00) detection Yes/No.  |
|      | 5   | Used to set the tag number.   |

| Code |     | Function  |
|------|-----|---|
| Main | Sub |   |
| 30   | 1   | Used to display the sensor status attached to the machine.  |
|      | 2   | Used to display the status of the sensors attached to the standard cassette and the manual feed tray. (Use SIM 4-2 for the option cassettes.) The sensor of an uninstalled cassette is not displayed. |
| 40   | 1   | Used to check the sensor of the machine manual feed tray.   |
|      | 2   | Used to adjust the manual paper feed tray paper width detector detection level.   |
|      | 3   | The AD conversion value of manual feed width detection is displayed.  |
| 41   | 1   | Used to check the document size detection photo sensor.   |
|      | 2   | Used to adjust the detection level of the document size photo sensor.   |
|      | 3   | Used to check the light reception level and the detection level of the original size detection photo sensor.  |
|      | 4   | Used to adjust the detection level of OC 20 degrees.  |
| 43   | 1   | Used to set the fusing temperature in 600dpi, 1200dpi, or postcard print.   |
|      | 10  | Used to set the paper feed cycle timing when printing postcards.  |
| 44   | 1   | Used to make various setups in each mode of process control.  |
|      | 34  | Used to set the transfer current value in each mode.  |
|      | 35  | Used to set the DV-Bias/Grid environment (low temperature) correction temperature.  |
|      | 40  | Used to set the time from the start of the main motor rotation (Ready) to the start of toner supply in previous rotation after turning on the power.  |
| 46   | 2   | Used to set the exposure level in each exposure mode.   |
|      | 7   | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Super Photo).   |
|      | 9   | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Text).  |
|      | 10  | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Text/Photo).  |
|      | 11  | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Photo).   |
|      | 12  | FAX exposure level adjustment (1 mode automatic adjustment)   |
|      | 13  | FAX exposure level adjustment (Normal mode individual adjustment)   |
|      | 14  | FAX exposure level adjustment (Fine text mode individual adjustment)  |
|      | 15  | FAX exposure level adjustment (Super Fine mode individual adjustment)   |
|      | 16  | FAX exposure level adjustment (Ultra Fine mode individual adjustment)   |
|      | 18  | Used to adjust inclination for each exposure mode.  |
|      | 19  | Used to set the control method of the exposure mode.  |
|      | 20  | Used to set the exposure correction value of SPF/RSPF for OC exposure.  |
| 30   |     | Used to set the AE and the limit value in AE (Toner save).  |

| Code |     | Function   |
|------|-----|--|
| Main | Sub |  |
| 46   | 31  | Used to set the AE and the limit value in AE (Toner save).   |
|      | 39  | Used to switch the FAX send image quality.   |
| 48   | 1   | Used to adjust the copy mode magnification ratio (main scanning direction, sub scanning direction).  |
|      | 2   | Used to adjust the scanner mode magnification ratio (main/sub scanning direction).   |
|      | 8   | FAX magnification adjustment (read)  |
|      | 9   | FAX magnification adjustment (print)   |
| 50   | 1   | Used to adjust the copy lead edge position.  |
|      | 5   | Used to adjust the print image position (top margin) on the print paper in the print mode.   |
|      | 6   | Used to adjust the print image position (top margin) on print paper in the copy mode. (SPF/RSPF)   |
|      | 8   | FAX lead edge adjustment (read)  |
|      | 9   | FAX lead edge adjustment (print)   |
|      | 10  | Used to adjust the print image center position. (Adjustment can be made for each paper feed section.)  |
| 51   | 12  | Used to adjust the print image center position. (Adjustment can be made for each document mode.)   |
|      | 1   | Used to adjust the OPC drum separation pawl ON time.   |
|      | 2   | Used to adjust the contact pressure of paper onto the resist roller in each section (copier paper feed section, duplex paper feed section, SPF/RSPF paper feed section). (When the print image position varies greatly for the paper or when a lot of paper jam troubles occur, the adjustment is required.)   |
|      | 8   | Used to set the OPC drum separation pawl operation inhibit. (ON/OFF)   |
|      | 9   | Used to adjust the OPC drum separation voltage ON/OFF timing.  |
| 53   | 6   | Used to adjust the detection level of the SPF/RSPF width. The adjustment method is the 4-point system. Set the guide to Max. (A3/WLetter) position, A4R/Letter R position, A5R/Invoice R position, and Min. position for adjustment.   |
|      | 7   | Used to enter the SPF/RSPF width detection adjustment value.   |
|      | 8   | Used to adjust the SPF/RSPF scan position of the mirror unit automatically. For the SPF/RSPF scan position automatic adjustment, the mirror unit is shifted to 11mm before the SPF/RSPF glass cover edge, and is operated automatically to scan images by the unit of 1 step, detecting the position up to the glass cover automatically. (Adjustment value)<br>Default: 50, Adjustment range: 1 - 99<br>Adjustment unit: 1 = about 0.12mm |
| 61   | 1   | Used to check the LSU (polygon motor) operation.   |
| 63   | 1   | Used to check the result of shading correction. (The shading correction data are displayed.)   |
|      | 7   | Used to adjust the SPF/RSPF white correction start pixel position automatically. This adjustment is performed after the lens unit is replaced.   |
| 64   | 1   | Used to check the operation of the printer function (auto print operation).  |

| Code |     | Function   |
|------|-----|--|
| Main | Sub |  |
| 65   | 1   | Used to adjust the touch panel (LCD display section) detection position.   |
|      | 2   | Used to check the touch panel (LCD display section) detection position adjustment result.  |
|      | 5   | Used to check the key inputs of the operation panel.   |
| 66   | 1   | Used to change and check the FAX-related soft SW.  |
|      | 2   | Used to clear the FAX-related soft SW. (Except for the FAX adjustment values)  |
|      | 3   | FAX PWB memory check   |
|      | 4   | Signal send mode (Signal send level: Max.)   |
|      | 5   | Signal send mode (Signal send level soft SW setting)   |
|      | 6   | Printing the confidential password   |
|      | 7   | Print the screen memory contents   |
|      | 8   | Voice Message send (Signal send level: Max.) (Japan only)  |
|      | 9   | Used to send the voice message. (Signal send level: Set by soft SW.)   |
|      | 10  | Image data memory clear  |
|      | 11  | Used to send 300bps signals. (Signal send level: Max.)   |
|      | 12  | Used to send 300bps signals. (Signal send level: Set by soft SW)   |
|      | 13  | Used to register the dial numbers.   |
|      | 14  | Used to perform the dial test. (10 PPS send test)  |
|      | 15  | Used to perform the dial test. (20 PPS send test)  |
|      | 16  | Used to perform the dial test. (DTFM signal send test)   |
|      | 17  | Used to check the DTFM signal send operation. (Signal send level: Max.)  |
|      | 18  | Used to check the DTFM signal send operation. (Signal send level: Set by soft SW.)   |
|      | 19  | Used to write the SRAM data to the Flash ROM.  |
|      | 20  | Used to write the Flash ROM data to the SRAM.  |
| 67   | 21  | FAX information print  |
|      | 22  | Handset sound volume adjustment (Japan only)   |
|      | 24  | Used to clear the FAST storage data. (SEC only)  |
|      | 30  | Used to set the TEL/LIU.   |
|      | 31  | Used to set the TEL/LIU.   |
|      | 32  | Receive data check   |
|      | 33  | Signal detection check   |
|      | 34  | Communication time measurement display   |
|      | 37  | Speaker sound volume adjustment  |
|      | 41  | CI signal check  |
|      | 1   | Used to execute read/write check of the RAM on the PCL board, and to display the result. (To be supported for MCU v00.45 or later) |
|      | 11  | Used to set the select-in signal of the Centro port.   |
|      | 14  | Used to check write/comparison of flash programs.  |
|      | 15  | Used to check the validity of the ROM on the PCL board and the result is displayed. (To be supported for MCU v00.45 or later)      |
|      | 17  | Used to clear the printer section setting. (NVRAM clear)   |
|      | 18  | Used to clear the data area for FLASH ROM Network Scanner Application.   |
|      | 20  | Used to check the network connection when the scanner option is installed.   |



## 4. Details

### 1

1-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of the scanner unit and its control circuit. |
| <b>Section</b>            | Optical (Image scanning)   |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Enter the number of operations, and set the magnification ratio and the original size.

1. Select the desired item, and press the [START] key.
  2. Enter the set value with the 10-key, and press the [START] key.
- The scanner unit operates at the speed corresponding to the set value.  
The scan counter is displayed during execution.

|                         |   |
|-------------------------|---|
| Set magnification ratio | 25% to 400% (1% increment) (Default 100%) |
| Document size           | Varies depending on the destination.      |
| Set number of times     | 1 to 999 (0: Continuous operation)        |

SIMULATION 1-1  
SCANNER CHECK. SELECT 1-4, AND PRESS START.  
1: CHECK START  
2: EXEC TIMES 0  
3:PAPER SIZE 1  
4:MAGNIFICATION 100

1-2

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of sensor and detector in the scanning (read) section and the related circuit. |
| <b>Section</b>            | Optical (Image scanning)   |
| <b>Item</b>               | Operation  |

#### Operation/procedure

The status of sensors and detectors in the scanner section is displayed. The active sensors and detectors are highlighted.

|      |                             |
|------|-----------------------------|
| MHPS | Mirror home position sensor |
|------|-----------------------------|

SIMULATION 1-2  
SCANNER SENSOR CHECK  
MHPS

### 2

2-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the SPF/RSPF unit and the related circuit. |
| <b>Section</b>            | SPF/RSPF  |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Enter the number of operations, and set the magnification ratio and the original size.

1. Select the desired item, and press the [START] key.
2. Enter the set value with the 10-key, and press the [START] key.

The SPF/RSPF unit operates at the speed corresponding to the set value.

The scan counter is displayed during execution.

|                         |   |
|-------------------------|---|
| Set magnification ratio | 50% to 200% (1% increment) (Default 100%) |
| Document size           | Varies depending on the destination.      |
| Duplex                  | Selectable only when RSPF is installed.   |
| Set number of times     | 1 to 999 (0: Continuous operation)        |

Note: Executable only when the SPF/RSPF is installed.

SIMULATION 2-1  
SPF AGING TEST. SELECT 1-5, AND PRESS START.  
1:TEST START 2:EXEC TIMES 0 3:PAPER SIZE 1 1  
4: MAGNIFICATION 100 5:PAPER SIZE 1

2-2

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of sensors and detectors in the SPF/RSPF unit and the related circuit. |
| <b>Section</b>            | SPF/RSPF   |
| <b>Item</b>               | Operation  |

#### Operation/procedure

The operations of sensors and detectors in the SPF/RSPF section are displayed.

The active sensors and detectors are highlighted.  
(For the original size, the detection result of the original size displayed on the copy menu is highlighted.)

|         |  |
|---------|--|
| EMPS    | Original empty sensor  |
| DLS1    | Original length sensor (Small)   |
| DLS2    | Original length sensor (Large)   |
| FGOD    | SPF/RSPF paper feed cover open/close sensor  |
| DFD     | SPF/RSPF paper entry sensor  |
| RDD     | SPF/RSPF original exit sensor  |
| OPCLS   | Book sensor  |
| SWD_LEN | Original detection width sensor (Unit of 0.1mm. "Width x 10" is displayed. Example: For 300mm, 3000 is displayed.) |
| SWD_A/D | Original detection width sensor A/D value  |

SPF/RSPF width detection size (One of the following is displayed.)

A4/A3, LT/WLT, B5/B4, INV/LTR, A5/A4R, B5R, EXTRA, 8K/16K, 16KR

Note: Executable only when the SPF/RSPF is installed.

SIMULATION 2-2  
SPF SENSOR CHECK.  
EMPS DLS1 DLS2 FGOD  
DFD RDD OPCLS A3/A4  
LT/WLT B5/B4 INV/LTR A5/A4R  
B5R EXTRA 8K/16K 16KR  
SWD\_LEN: 3000  
SWD\_A/D: 760

2-3

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the loads in the SPF/RSPF unit and the control circuits. |
| <b>Section</b>            | SPF/RSPF  |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Select the load to be checked with the 10-key, and press the [START] key.

The motor for 10sec, the solenoid ON for 500msec, OFF for 500msec. (20 times)

| Item | Content                               |
|------|---------------------------------------|
| 1    | DTM-F SPF/RSPF motor forward rotation |
| 2    | DTM-R SPF/RSPF motor reverse rotation |
| 3    | DFCL SPF/RSPF paper feed clutch       |
| 4    | CLH SPF/RSPF PS clutch                |
| 5    | GSOL Document exit gate solenoid      |
| 6    | RSOL Document exit pressure solenoid  |

Note: Executable only when the SPF/RSPF is installed.

#### SIMULATION 2-3

SPF LOAD TEST. SELECT 1-6, AND PRESS START.

1:DTM-F 2:DTM-R 3:DFCL 4:CLH  
5:GSOL 6:RSOL

2

3

3-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of sensor and detector in the finisher and the related circuit. |
| <b>Section</b>            | Finisher  |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Used to display the operations of sensors and detectors in the finisher section.

The active sensors and detectors are highlighted.

|       |   |
|-------|---|
| INPD  | Finisher paper entry sensor                   |
| FWPS  | Paper width sensor                            |
| JGHP1 | Side guide plate HP sensor                    |
| JGHP2 | Rear edge plate HP sensor                     |
| JGPD  | Tray paper empty sensor                       |
| T1OD  | 1st tray exit sensor                          |
| T1PF  | 1st tray paper full sensor                    |
| PGOP  | JAM processing PG open/close detection sensor |
| T2OD  | 2nd tray exit sensor                          |
| OFHP  | Offset HP sensor                              |
| T2UP  | Tray position sensor (upper)                  |
| T2DN  | Tray position sensor (lower)                  |
| JGDSW | Tray jam processing interlock                 |
| EVRE  | Lift-up drive control sensor                  |
| STHP  | Staple HP sensor                              |
| READY | Self priming sensor                           |
| LSTS  | Staple empty sensor                           |
| NCTS  | Cartridge empty sensor                        |
| STND  | Staple supply cover open/close sensor         |
| T2PUD | 2nd tray upper surface sensor                 |

Note: Executable only when the finisher is installed.

#### SIMULATION 3-2

FINISHER SENSOR CHECK

INPD FWPS JGHP1 JGHP2 JGPD T1OD T1PF  
PGOP T2OD OFHP T2UP T2DN JGDSW EVRE  
STHP READY LSTS NCTS STND T2PUD

3-3

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of the load in the finisher and the control circuit. |
| <b>Section</b>            | Finisher   |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Select the load to be checked with the 10-key, and press the [START] key.

The finisher main motor operates for 10sec, the staple motor 5 times, the tray lift-up motor one reciprocating operation, other motors max. 20 reciprocating operations from the home position, the solenoid repeats 500msec ON and 500msec OFF 20 times.

The staple operation motor operates only when there is no cartridge installed.

| Item | Content                                     |
|------|---|
| 1    | JGM1 Side guide plate drive motor           |
| 2    | JGM2 Rear edge plate drive motor            |
| 3    | FM-600 Finisher main motor (600dpi)         |
| 4    | FM-1200 Finisher main motor (1200dpi)       |
| 5    | EVM Tray lift-up motor                      |
| 6    | OFM Tray offset motor                       |
| 7    | STM Staple operation motor                  |
| 8    | OGSLR Transport selection gate solenoid (R) |
| 9    | OGSLL Transport selection gate solenoid (L) |
| 10   | JGSL1 Rear edge plate drive solenoid        |
| 11   | JGSL2 Upper alignment plate drive solenoid  |
| 12   | SHTSL Shutter drive solenoid                |
| 13   | T2SCL Paper exit roller clutch              |
| 14   | STGSL Paper holding solenoid                |

Note: Executable only when the finisher is installed.

#### SIMULATION 3-3

FINISHER LOAD TEST. SELECT 1-14, AND PRESS START.

1:JGM1 2:JGM2 3:FM-600 4:FM-1200  
5:EVM 6:OFM 7:STM 8:OGSLR  
9:OGSLL 10:JGSL1 11:JGSL2 12:SHTSL  
13:T2SCL 14:STGSL

8

3-6

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the alignment position (side regulation plate, rear edge regulation plate) for each paper size. Shifts to the specified paper size position. |
| <b>Section</b>            | Finisher  |
| <b>Item</b>               | Operation   |

#### Operation/procedure

After the paper size is set, the side guide plate and the rear guide plate are set.

1. Enter the desired item with the 10-key, and press the [START] key.
2. Enter the adjustment value with the 10-key, and press the [START] key.

| Item | Content  | Setting range | Default |
|------|--|---------------|---------|
| 1    | PAPER SIZE<br>Paper size<br>(1:A3, 2:A4, 3:B4, 4:B5,<br>5:A4R, 6:WLT, 7:LT,<br>8:LG, 9:FC, 10:LTR,<br>11:8K, 12:16K) | 1-12          | A4      |
| 2    | JOGGER POS X<br>Side guide plate   | 1-99          | 50      |
| 3    | JOGGER POS Y<br>Rear edge guide plate  |               |         |

There are 6 adjustment values for the side guide plate, and 12 for the rear guide plate. The adjustment position is determined from the table below according to the paper size.

| Paper size | Side guide plate adjustment value number | Adjustment value number of the rear edge guide plate |
|------------|--|--|
| A3         | 1  | 2  |
| A4         | 1  | 9  |
| B4         | 3  | 3  |
| B5         | 3  | 10   |

| Paper size | Side guide plate adjustment value number | Adjustment value number of the rear edge guide plate |
|------------|--|--|
| A4R        | 5  | 6  |
| WLT        | 2  | 1  |
| LT         | 2  | 8  |
| LG         | 4  | 4  |
| FC         | 4  | 5  |
| LTR        | 4  | 7  |
| 8K         | 6  | 11   |
| 16K        | 6  | 12   |

Note: Executable only when the finisher is installed.

|  |   |
|--|---|
| <b>SIMULATION 3-6</b>                                    |   |
| FINISHER JOGGER ADJUSTMENT. SELECT 1-3, AND PRESS START. |   |
| 1:PAPER SIZE   | 2 |
| 2:JOGGER POS X   |   |
| 3:JOGGER POS Y   |   |

### 3-7

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment                                 |
| <b>Function (Purpose)</b> | Used to adjust the offset tray operations. |
| <b>Section</b>            | Finisher                                   |
| <b>Item</b>               | Operation                                  |

#### Operation/procedure

1. Touch the operation item to be set.
2. Enter the set value with the 10-key.

| Item             | Content   | Installation range | Default |
|------------------|---|--------------------|---------|
| 1 PAPER PUSH TMG | Paper holder descending timing in non-staple<br>Used to adjust the descending timing of the paper holder lever before lift-up operation after paper exit or offset operation. (The paper holder lever prevents against paper shift in paper top surface detection and paper stacking .) | 34-66              | 50      |
| 2 PAPER OUT DOWN | Tray descending distance after non-staple paper exit<br>Used to adjust the offset tray descending distance after non-staple paper exit. The descending distance is the relative distance from the non-staple standby position.  | 0-12               | 1       |
| 3 STAPLE UP      | Tray lift distance before staple paper exit<br>The height of the tray standby position in stapling is changed for that in non-stapling to improve stacking capacity in stapling. (The relative distance for the height of the tray standby position in non-stapling is set.)            | 0-12               | 6       |
| 4 STAPLE DOWN    | Tray descending distance after staple paper exit<br>Used to adjust the offset tray descending distance after staple paper exit. The descending distance is the relative distance from the non-staple standby position.  | 0-12               | 6       |

| Item             | Content  | Installation range | Default |
|------------------|--|--------------------|---------|
| 5 OFFSET INI.POS | Offset tray shift position adjustment<br>Used to shift the offset tray to the shipment position or the disassembly position. The offset tray is shifted to the specified counter position.<br>(In the case of 0 - 94 (Shipment position)<br>1) Initialize the offset tray normally.<br>2) The tray descends to the parameter position + 1 pulse position.<br>3) The tray lifts up to the specified parameter position.<br>(Disassembly position: 94 - 99)<br>1) The tray descends to the bottom.<br>* If there is some paper in the offset tray, the tray cannot descend to the specified position. Check to insure that there is no paper in the tray before execution. | 0-99               | 13      |

Note: Executable only when the finisher is installed.

|   |    |
|---|----|
| <b>SIMULATION 3-7</b>                                       |    |
| OFFSET TRAY ADJUSTMENT. INPUT VALUE 34-66, AND PRESS START. |    |
| 1: PAPER PUSH TMG   | 50 |
| 2: PAPER OUT DOWN   | 1  |
| 3: STAPLE UP  | 6  |
| 4: STAPLE DOWN  | 6  |
| 5: OFFSET INI.POS   | 13 |

### 3-11

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the shifter operation. Reciprocating operations are continuously performed or the home position is checked. (The shifter is shifted to the home position or moved in one way by the specified steps.) |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Select item "1," and press the [START] key.

The shifter is reciprocated continuously at the specified interval.

| Item       | Content                 |
|------------|-------------------------|
| 1 F-R      | Reciprocating operation |
| 2 HP CHECK | Home position check     |

[Selection 2]

1. Select item "2," and press the [START] key.
2. Move the shifter to the home position or in one way by the specified steps with the following keys.

|         |  |
|---------|--|
| [*] key | Shifts the position toward R side by the specified steps.  |
| [0] key | Shifts the position toward HP side by the specified steps. |
| [#] key | Shifts to F.   |
| SFTHP   | Shifter home position (At detection, highlighted)          |

|   |   |
|---|---|
| <b>SIMULATION 3-11</b>                      |   |
| SHIFTER CHECK. SELECT 1-2, AND PRESS START. |   |
| 1:F-R                                       | 1 |
| 2:HP CHECK                                  |   |

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of sensor and detector in the option cassette and the related circuit. |
| <b>Section</b>            | Paper feed   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

The operating states of the sensor and the detector are displayed. (Only the installed option cassettes are displayed. For the standard tray, use SIM 30-2.)

The active sensors and detectors are highlighted.

|       |   |
|-------|---|
| PED2  | 2nd cassette paper empty sensor                 |
| LUD2  | 2nd cassette paper upper limit detection sensor |
| PFD2  | 2nd cassette paper pass sensor                  |
| CD2   | 2nd cassette empty sensor                       |
| PED3  | 3rd cassette paper empty sensor                 |
| LUD3  | 3rd cassette paper upper limit detection sensor |
| PFD3  | 3rd cassette paper pass sensor                  |
| CD3   | 3rd cassette empty sensor                       |
| PED4  | 4th cassette paper empty sensor                 |
| LUD4  | 4th cassette paper upper limit detection sensor |
| PFD4  | 4th cassette paper pass sensor                  |
| CD4   | 4th cassette empty sensor                       |
| DSWR2 | 2nd cassette right door detection sensor        |
| DSWR3 | 3rd cassette right door detection sensor        |
| DSWR4 | 4th cassette right door detection sensor        |

Note: Execution is possible only when the option cassette is installed.

**SIMULATION 4-2**

OPTION CASSETTE SENSOR CHECK.

PED2 LUD2 PFD2 **CD2** PED3 LUD3 PFD3 CD3  
PED4 **LUD4** PFD4 CD4 DSWR2 DSWR3 DSWR4

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the load in the option tray and the control circuit. |
| <b>Section</b>            | Paper feed  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

Select the load to be checked with the 10-key, and press the [START] key.

The motor for 10sec, the solenoid ON for 500msec, OFF for 500msec.

The lift-up motor operates only when the tray is opened. (20 times)

| Item | Content  |
|------|--|
| 1    | LUM2 2nd cassette lift-up motor  |
| 2    | CPFC2 2nd cassette pick-up solenoid  |
| 3    | CPFS2 2nd cassette paper feed clutch                                       |
| 4    | TRC2 2nd cassette transport roller clutch                                  |
| 5    | DM 2nd cassette paper transport motor (3rd cassette paper transport motor) |
| 6    | LUM3 3rd cassette lift-up motor  |
| 7    | CPFC3 3rd cassette pick-up solenoid  |
| 8    | CPFS3 3rd cassette paper feed clutch                                       |
| 9    | TRC3 3rd cassette transport roller clutch                                  |
| 10   | LUM4 4th cassette lift-up motor  |
| 11   | CPFC4 4th cassette pick-up solenoid  |
| 12   | CPFS4 4th cassette paper feed clutch                                       |

Note: Execution is possible only when the option cassette is installed.

**SIMULATION 4-3**

OPTION CASSETTE OUTPUT CHECK. SELECT 1-12, AND PRESS START.

1:LUM2 2:CPFC2 3:CPFS2 4:TRC2 5:DM **8**  
6:LUM3 7:CPFC3 8:CPFS3 9:TRC3 10:LUM4  
11:CPFC4 12:CPFS4

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of the display (LED), LCD in the operation panel, and control circuit. |
| <b>Section</b>            | Operation (screen/operation)   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

The LCD is displayed as follows. (All LED's are ON.)

With the upper half highlighted and the lower half normally displayed, contrast changes "Standard → MAX → MIN." in every 2sec.

SIMULATION 5-1  
LCD/LED CHECK.

(6 sec later)

With the upper half normally displayed and the lower half highlighted, contrast changes "Standard → MAX → MIN." in every 2sec.

SIMULATION 5-1  
LCD/LED CHECK.

\* When returning to the sub menu selection menu, the display of the standard contrast is displayed for an instant.

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the heater lamp and the control circuit. |
| <b>Section</b>            | Fusing  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

1. Select the lamp to be checked with the 10-key, and press the [START] key.

ON/OFF operation of the heater lamp is repeated 5 times in an interval of 100ms/900ms.

When completing the operation, the cooling fan is rotated at a low speed.

Item Content

| Item | Content                            |
|------|------------------------------------|
| 1    | HL1 Heater lamp 1 (Main) operation |
| 2    | HL2 Heater lamp 2 (Sub) operation  |

**SIMULATION5-2**

HEATER LAMP TEST. SELECT 1-2, AND PRESS START.

1:HR1 **1**  
2:HR2

5-3

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the copy lamp and the control circuit. |
| <b>Section</b>            | Optical (Image scanning)  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

When the [START] key is pressed, the copy lamp is lighted for 10sec.

SIMULATION 5-3

COPY LAMP TEST. PRESS START.

6

6-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of the loads (clutches and solenoids) in the paper transport system and the control circuit. |
| <b>Section</b>            | Paper transport (Discharge/Switchback/Transport)   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

1. Select the load to be checked with the 10-key, and press the [START] key.

The motor for 10sec, the solenoid ON for 500msec, OFF for 500msec. (20 times)

When the [CUSTOM SETTINGS] is pressed, the operation is interrupted.

The lift-up motor operates only when the tray is opened.

| Item     | Content                              |
|----------|--------------------------------------|
| 1 LUM1   | 1st cassette lift-up motor           |
| 2 CPFC1  | 1st cassette pick-up solenoid        |
| 3 CPFS1  | 1st cassette paper feed clutch       |
| 4 MPFS   | Manual feed pick-up solenoid         |
| 5 RRC    | Resist roller clutch                 |
| 6 PPS    | Separation pawl solenoid             |
| 7 OGS    | Paper exit gate switching solenoid   |
| 8 LUM2   | 2nd cassette lift-up motor           |
| 9 CPFC2  | 2nd cassette pick-up solenoid        |
| 10 CPFS2 | 2nd cassette paper feed clutch       |
| 11 TRC2  | 2nd cassette transport roller clutch |
| 12 LUM3  | 3rd cassette lift-up motor           |
| 13 CPFC3 | 3rd cassette pick-up solenoid        |
| 14 CPFS3 | 3rd cassette paper feed clutch       |
| 15 TRC3  | 3rd cassette transport roller clutch |
| 16 LUM4  | 4th cassette lift-up motor           |
| 17 CPFC4 | 4th cassette pick-up solenoid        |
| 18 CPFS4 | 4th cassette paper feed clutch       |

The lift-up motor operates only when the tray is opened.

SIMULATION 6-1

FEED OUTPUT CHECK. SELECT 1-18, AND PRESS START.

1:LUM1 2:CPFC1 3:CPFS1 4:MPFS 5:RRC 6:  
 6:PPS 7:OGS 8:LUM2 9:CPFC2 10:CPFS2  
 11:TRC2 12:LUM3 13:CPFC3 14:CPFS3 15:TRC3  
 16:LUM4 17:CPFC4 18:CPFS4

6-2

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the operation of each fan motor and its control circuit. |
| <b>Section</b>            | Others   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

Select the load to be checked with the 10-key, and press the [START] key.

The selected load is operated for 10sec.

| Item             | Content   |
|------------------|---|
| 1 VFM            | Only the fusing fan operates  |
| 2 DCFM&DCFM2     | Power cooling fan, power cooling fan 2 operations                                     |
| 3 VFM&DCFM&DCFM2 | Fusing fan, power cooling fan, and power cooling fan 2 are operated at the same time. |

SIMULATION 6-2

FAN MOTOR CHECK. SELECT 1-3, AND PRESS START.

1:VFM  
 2:DCFM&DCFM2  
 3:VFM&DCFM&DCFM2

7

7-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting/Operation test/check                |
| <b>Function (Purpose)</b> | Used to set the aging operation conditions. |
| <b>Item</b>               | Operation                                   |

**Operation/procedure**

1. Select the load to be set with the 10-key.

2. Press the [START] key.

When selected without setup, the selected value is registered and highlighted. When selected with previous setup, the previous setup is canceled and it is displayed normally.

Press [CA] key, and the simulation will be terminated and the machine goes into the aging standby mode with the set content.

This setting is canceled by power OFF.

| Item      | Content  |
|-----------|--|
| 1 AGING   | Aging enable/disable setting   |
| 2 MISFEED | Jam detection enable/disable setting   |
| 3 FUSING  | Fusing operation enable/disable setting<br>The fusing temperature is not controlled. The heater is not turned ON.  |
| 4 INTERVL | Intermittent setting (Valid only when set to AGING.)   |
| 5 WARMUP  | Warm-up save setting<br>The machine goes into the ready state only by shading, disregarding fusing and process control. After going into the ready state, normal control is performed. |
| 6 DV CHK. | Developing unit detection enable/disable setting   |

\*1: When the machine exits from the fusing ignoring state, the roller may be cooled down. Therefore, reset the machine to warm up again.

When, therefore, the simulation is canceled by pressing the [CA] key or when the copy mode display is shifted to the initial menu display in the simulation mode of one page copy, the machine is reset.

Note: In SIM 7-1, pressing [CA] key terminates the simulation and the machine enters the aging mode without resetting. Therefore, to perform "4. Intermittent setup," the intermittent cycle must be set with SIM 7-6 in advance.

Reset is not performed when the machine enters the aging mode.

#### SIMULATION 7-1

AGING TEST SETTING. SELECT 1-6, AND PRESS START.

1:AGING 2:MISFEED 3:FUSING 4:INTERVL 2  
5:WARMUP 6:DV CHK.

7-6

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting/Operation test/check                 |
| <b>Function (Purpose)</b> | Used to set the cycle of intermittent aging. |
| <b>Item</b>               | Operation                                    |

#### Operation/procedure

- Enter the interval aging cycle time (sec) with the 10-key pad. Refer to SIM 7-1.
- Press the [START] key.

When the [START] key is pressed in aging, copying is performed continuously. This simulation is used to set the time interval between copy operations in the unit of second.

This setting is valid when SIM 7-1 (Intermittent setting) is enabled.

|               |       |
|---------------|-------|
| Setting range | 1-255 |
| Default       | 3     |

#### SIMULATION 7-6

INTERVAL AGING CYCLE SETUP. INPUT TIME 1-255, AND PRESS START.

7-8

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting/Operation test/check                 |
| <b>Function (Purpose)</b> | Used to set the display of the warm-up time. |
| <b>Item</b>               | Operation                                    |

#### Operation/procedure

- Warm-up starts by the cover open/close.  
(Can be performed repeatedly by open/close of the cover.)
- The warm-up time is counted up and displayed in the unit of sec.  
If the [CA] key is pressed at this time, count-up is interrupted to terminate the simulation. (However, warm-up is continued.)
- After completion of warming up, "WARM UP COMPLETED" is displayed and the control returns to the initial screen.

#### SIMULATION 7-8

WARM UP TIME DISPLAY.  
PLEASE COVER OPEN AND CLOSE.

8

8-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/Operation test/check  |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the developing bias voltage in each copy mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Developer/Toner hopper                            |

#### Operation/procedure

- Touch the exposure mode to be changed.  
The current set value is displayed.
- Enter the set value with the 10-key.
- Press the [START] key.

Output is made with the entered value, and the display returns to the original state.

| Item          | Content         | Installation range | Default     |
|---------------|-----------------|--------------------|-------------|
| 1 AE          | AE (*)          | 200-550            | 400 (-400V) |
| 2 TEXT        | Character       |                    | 450 (-450V) |
| 3 TEXT/PHOTO  | Character/Photo |                    | 450 (-450V) |
| 4 PHOTO       | Photo           |                    | 450 (-450V) |
| 5 SUPER/PHOTO | Super photo     |                    | 400 (-400V) |
| 6 TONER SAVE  | Toner save      |                    | 376 (-376V) |

(\*) Linked with the destinations of SIM 26-6.

Linked with the auto exposure mode of SIM 46-19-1.

The minimum increment is 2V.

The result of (Set value - 199) / 2 is stored in the EEPROM.

When reading a value from the EEPROM, the value of (EEP value \* 2) + 200 is used as the set value.

Therefore, the set value entered must be an even number. If an odd number is entered the entered odd number + 1 is displayed after pressing [START] key.

#### SIMULATION 8-1

DV BIAS COPY SETTING. INPUT VALUE 200-550, AND PRESS START.

1: AE 400 400  
2: TEXT 450 1/1  
3: TEXT/PHOTO 450  
4: PHOTO 450  
5: SUPER/PHOTO 400  
6: TONER SAVE 376

8-2

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/Operation test/check  |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the main charger grid voltage (high mode) in each copy mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Photo conductor   |

#### Operation/procedure

- Touch the exposure mode to be changed.  
The current set value is displayed.
- Enter the set value with the 10-key.
- Press the [START] key.

Output is made with the entered value for 30sec, and the display returns to the original state.

| Item          | Content         | Setting range | Default   |
|---------------|-----------------|---------------|-----------|
| 1 AE          | AE (*)          | 1-8           | 3 (-530V) |
| 2 TEXT        | Character       |               | 5 (-580V) |
| 3 TEXT/PHOTO  | Character/Photo |               | 5 (-580V) |
| 4 PHOTO       | Photo           |               | 5 (-580V) |
| 5 SUPER/PHOTO | Super photo     |               | 3 (-530V) |
| 6 TONER SAVE  | Toner save      |               | 2 (-505V) |

Min. unit: -25V increment

(\*) Linked with the destinations of SIM 26-6.

Linked with the auto exposure mode of SIM 46-19-1.

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 1   | 480       | -480V     | -350V    |
| 2   | 505       | -505V     | -375V    |
| 3   | 530       | -530V     | -400V    |

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 4   | 555       | -555V     | -425V    |
| 5   | 580       | -580V     | -450V    |
| 6   | 605       | -605V     | -475V    |
| 7   | 630       | -630V     | -500V    |
| 8   | 655       | -655V     | -525V    |

\*1. The negative value of the set value corresponds to the grid high output voltage.

\*2. The set values can be selected from the above 8 patterns only.

\*3. The selected pattern determines the grid high voltage and the grid low voltage.

If, for example, the grid high voltage is set to -480V (pattern 1), the grid low voltage is -350V.

**SIMULATION 8-2**  
MHV(H) COPY SETTING. INPUT VALUE 1-8, AND PRESS START.

|                |   |     |
|----------------|---|-----|
| 1: AE          | 3 |     |
| 2: TEXT        | 5 |     |
| 3: TEXT/PHOTO  | 5 | 1/1 |
| 4: PHOTO       | 5 | ↑   |
| 5: SUPER/PHOTO | 3 |     |
| 6: TONER SAVE  | 2 |     |

↓ OK

### 8-3

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Operation test/check   |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the main charger grid voltage (low mode) in each copy mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Photo conductor  |

#### Operation/procedure

1. Touch the exposure mode to be changed.  
The current set value is highlighted.
2. Enter the set value with the 10-key.
3. Press the [START] key.

Output is made with the entered value for 30sec, and the display returns to the original state.

| Item          | Content         | Setting range | Default   |
|---------------|-----------------|---------------|-----------|
| 1 AE          | AE (*)          | 1-8           | 3 (-400V) |
| 2 TEXT        | Character       |               | 5 (-450V) |
| 3 TEXT/PHOTO  | Character/Photo |               | 5 (-450V) |
| 4 PHOTO       | Photo           |               | 5 (-450V) |
| 5 SUPER/PHOTO | Super photo     |               | 3 (-400V) |
| 6 TONER SAVE  | Toner save      |               | 2 (-375V) |

Min. unit: -25V increment

(\*) Linked with the destinations of SIM 26-6.

Linked with the auto exposure mode of SIM 46-19-1.

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 1   | 480       | -480V     | -350V    |
| 2   | 505       | -505V     | -375V    |
| 3   | 530       | -530V     | -400V    |
| 4   | 555       | -555V     | -425V    |
| 5   | 580       | -580V     | -450V    |
| 6   | 605       | -605V     | -475V    |
| 7   | 630       | -630V     | -500V    |
| 8   | 655       | -655V     | -525V    |

\*1. The negative value of the set value corresponds to the grid high output voltage.

\*2. The set values can be selected from the above 8 patterns only.

\*3. The selected pattern determines the grid high voltage and the grid low voltage.

If, for example, the grid high voltage is set to -480V (pattern 1), the grid low voltage is -350V.

**SIMULATION 8-3**  
MHV(L) COPY SETTING. INPUT VALUE 1-8, AND PRESS START.

|                |   |     |
|----------------|---|-----|
| 1: AE          | 3 |     |
| 2: TEXT        | 5 |     |
| 3: TEXT/PHOTO  | 5 | 1/1 |
| 4: PHOTO       | 5 | ↑   |
| 5: SUPER/PHOTO | 3 |     |
| 6: TONER SAVE  | 2 |     |

↓ OK

### 8-10

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Operation test/check   |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the developing bias voltage in each printer mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Developer/Toner hopper                               |

#### Operation/procedure

1. Touch the exposure mode to be changed.  
The current set value is displayed.
2. Enter the set value with the 10-key.
3. Press the [START] key.

Output is made with the entered value for 30sec, and the display returns to the original state.

| Item           | Content             | Installation range | Default     |
|----------------|---------------------|--------------------|-------------|
| 1 DENS1(600)   | Density 1 (600dpi)  | 200-550            | 400 (-400V) |
| 2 DENS2(600)   | Density 2 (600dpi)  |                    | 450 (-450V) |
| 3 DENS3(600)   | Density 3 (600dpi)  |                    | 450 (-450V) |
| 4 DENS4(600)   | Density 4 (600dpi)  |                    | 450 (-450V) |
| 5 DENS5(600)   | Density 5 (600dpi)  |                    | 500 (-500V) |
| 6 TS(600)      | Toner save (600dpi) |                    | 350 (-350V) |
| 7 DENS1(1200)  | Density 1 (1200dpi) |                    | 300 (-300V) |
| 8 DENS2(1200)  | Density 2 (1200dpi) |                    | 350 (-350V) |
| 9 DENS3(1200)  | Density 3 (1200dpi) |                    | 376 (-376V) |
| 10 DENS4(1200) | Density 4 (1200dpi) |                    | 426 (-426V) |
| 11 DENS5(1200) | Density 5 (1200dpi) |                    | 500 (-500V) |

The minimum increment is 2V.

The result of (Set value - 199) / 2 is stored in the EEPROM.

When reading a value from the EEPROM, the value of (EEP value \*2) + 200 is used as the set value.

Therefore, the set value entered must be an even number. If an odd number is entered the entered odd number + 1 is displayed after pressing [START] key.

**SIMULATION 8-10**  
DV BIAS PRINTER SETTING. INPUT VALUE 200-550, AND PRESS START.

|                 |     |                 |     |     |
|-----------------|-----|-----------------|-----|-----|
| 1: DENS1(600)   | 400 | 2: DENS2(600)   | 450 | 400 |
| 3: DENS3(600)   | 450 | 4: DENS4(600)   | 450 | 1/1 |
| 5: DENS5(600)   | 500 | 6: TS (600)     | 350 | ↑   |
| 7: DENS1(1200)  | 300 | 8: DENS2(1200)  | 350 |     |
| 9: DENS3(1200)  | 376 | 10: DENS4(1200) | 426 | ↓   |
| 11: DENS5(1200) | 500 |                 |     | OK  |

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Operation test/check   |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the main charger grid voltage (high mode) in each printer mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)   |
|                           | Photo conductor   |

**Operation/procedure**

1. Touch the exposure mode to be changed.  
The current set value is highlighted.
2. Enter the set value with the 10-key.
3. Press the [START] key.

Output is made with the entered value for 30sec, and the display returns to the original state.

| Item           | Content             | Installation range | Default   |
|----------------|---------------------|--------------------|-----------|
| 1 DENS1(600)   | Density 1 (600dpi)  | 1-8                | 5 (–580V) |
| 2 DENS2(600)   | Density 2 (600dpi)  |                    | 5 (–580V) |
| 3 DENS3(600)   | Density 3 (600dpi)  |                    | 5 (–580V) |
| 4 DENS4(600)   | Density 4 (600dpi)  |                    | 5 (–580V) |
| 5 DENS5(600)   | Density 5 (600dpi)  |                    | 7 (–630V) |
| 6 TS(600)      | Toner save (600dpi) |                    | 3 (–530V) |
| 7 DENS1(1200)  | Density 1 (1200dpi) |                    | 1 (–480V) |
| 8 DENS2(1200)  | Density 2 (1200dpi) |                    | 3 (–530V) |
| 9 DENS3(1200)  | Density 3 (1200dpi) |                    | 4 (–555V) |
| 10 DENS4(1200) | Density 4 (1200dpi) |                    | 5 (–580V) |
| 11 DENS5(1200) | Density 5 (1200dpi) |                    | 7 (–630V) |

Min. unit: 25V increment

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 1   | 480       | –480V     | –350V    |
| 2   | 505       | –505V     | –375V    |
| 3   | 530       | –530V     | –400V    |
| 4   | 555       | –555V     | –425V    |
| 5   | 580       | –580V     | –450V    |
| 6   | 605       | –605V     | –475V    |
| 7   | 630       | –630V     | –500V    |
| 8   | 655       | –655V     | –525V    |

- \*1. The negative value of the set value corresponds to the grid high output voltage.
- \*2. The set values can be selected from the above 8 patterns only.
- \*3. The selected pattern determines the grid high voltage and the grid low voltage.  
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

|   |   |                 |       |
|---|---|-----------------|-------|
| <b>SIMULATION 8-11</b>                                    |   |                 |       |
| MHV(H) PRINTER SETTING. INPUT VALUE 1-8, AND PRESS START. |   |                 |       |
| 1: DENS1(600)   | 5 | 2: DENS2(600)   | 5     |
| 3: DENS3(600)   | 5 | 4: DENS4(600)   | 5     |
| 5: DENS5(600)   | 7 | 6: TS (600)     | 3 1/1 |
| 7: DENS1(1200)  | 1 | 8: DENS2(1200)  | 3     |
| 9: DENS3(1200)  | 4 | 10: DENS4(1200) | 5     |
| 11: DENS5(1200)   | 7 |                 |       |
|   |   |                 | ↓     |
|   |   |                 | OK    |

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/Operation test/check  |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the main charger grid voltage (low mode) in each printer mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)  |
|                           | Photo conductor  |

**Operation/procedure**

1. Touch the exposure mode to be changed.  
The current set value is highlighted.
2. Enter the set value with the 10-key.
3. Press the [START] key.

Output is made with the entered value for 30sec, and the display returns to the original state.

| Item           | Content             | Installation range | Default   |
|----------------|---------------------|--------------------|-----------|
| 1 DENS1(600)   | Density 1 (600dpi)  | 1-8                | 5 (–450V) |
| 2 DENS2(600)   | Density 2 (600dpi)  |                    | 5 (–450V) |
| 3 DENS3(600)   | Density 3 (600dpi)  |                    | 5 (–450V) |
| 4 DENS4(600)   | Density 4 (600dpi)  |                    | 5 (–450V) |
| 5 DENS5(600)   | Density 5 (600dpi)  |                    | 7 (–500V) |
| 6 TS(600)      | Toner save (600dpi) |                    | 3 (–400V) |
| 7 DENS1(1200)  | Density 1 (1200dpi) |                    | 1 (–350V) |
| 8 DENS2(1200)  | Density 2 (1200dpi) |                    | 3 (–400V) |
| 9 DENS3(1200)  | Density 3 (1200dpi) |                    | 4 (–425V) |
| 10 DENS4(1200) | Density 4 (1200dpi) |                    | 5 (–450V) |
| 11 DENS5(1200) | Density 5 (1200dpi) |                    | 7 (–500V) |

Min. unit: 25V increment

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 1   | 480       | –480V     | –350V    |
| 2   | 505       | –505V     | –375V    |
| 3   | 530       | –530V     | –400V    |
| 4   | 555       | –555V     | –425V    |
| 5   | 580       | –580V     | –450V    |
| 6   | 605       | –605V     | –475V    |
| 7   | 630       | –630V     | –500V    |
| 8   | 655       | –655V     | –525V    |

- \*1. The negative value of the set value corresponds to the grid high output voltage.
- \*2. The set values can be selected from the above 8 patterns only.
- \*3. The selected pattern determines the grid high voltage and the grid low voltage.  
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

|   |   |                 |       |
|---|---|-----------------|-------|
| <b>SIMULATION 8-12</b>                                    |   |                 |       |
| MHV(L) PRINTER SETTING. INPUT VALUE 1-8, AND PRESS START. |   |                 |       |
| 1: DENS1(600)   | 5 | 2: DENS2(600)   | 5     |
| 3: DENS3(600)   | 5 | 4: DENS4(600)   | 5     |
| 5: DENS5(600)   | 7 | 6: TS (600)     | 3 1/1 |
| 7: DENS1(1200)  | 1 | 8: DENS2(1200)  | 3     |
| 9: DENS3(1200)  | 4 | 10: DENS4(1200) | 5     |
| 11: DENS5(1200)   | 7 |                 |       |
|   |   |                 | ↓     |
|   |   |                 | OK    |

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/Operation test/check  |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the developing bias voltage in FAX mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)  |
|                           | Developer/Toner hopper   |

**Operation/procedure**

1. Enter the set value with the 10-key.
2. Press the [START] key.

Output is made with the entered value for 30sec. and the display returns to the original state.

|               |         |
|---------------|---------|
| Setting range | 200-550 |
| Default       | 426     |



The minimum increment is 2V.

The result of (Set value – 199) / 2 is stored in the EEPROM.

When reading a value from the EEPROM, the value of (EEP value \*2) + 200 is used as the set value.

Therefore, the set value entered must be an even number. If an odd number is entered the entered odd number + 1 is displayed after pressing [START] key.

#### SIMULATION 8-13

DV BIAS FAX SETTING. INPUT VALUE 200-550, AND PRESS START.

426

8-14

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/Operation test/check  |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the main charger grid voltage (high mode) in FAX mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)  |
|                           | Photo conductor  |

#### Operation/procedure

1. Enter the set value with the 10-key.
2. Press the [START] key.

Output is made with the entered value for 30sec. and the display returns to the original state.

|               |             |
|---------------|-------------|
| Setting range | 1-8         |
| Default       | 5 (480-650) |

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 1   | 480       | –480V     | –350V    |
| 2   | 505       | –505V     | –375V    |
| 3   | 530       | –530V     | –400V    |
| 4   | 555       | –555V     | –425V    |
| 5   | 580       | –580V     | –450V    |
| 6   | 605       | –605V     | –475V    |
| 7   | 630       | –630V     | –500V    |
| 8   | 655       | –655V     | –525V    |

Min. unit: 25V increment

- \*1. The negative value of the set value corresponds to the grid high output voltage.
- \*2. The set values can be selected from the above 8 patterns only.
- \*3. The selected pattern determines the grid high voltage and the grid low voltage.  
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

#### SIMULATION 8-14

MHV(H) FAX SETTING. INPUT VALUE 1-8, AND PRESS START.

5

8-15

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Operation test/check   |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the main charger grid voltage (low mode) in FAX mode and the control circuit. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)   |
|                           | Photo conductor   |

#### Operation/procedure

1. Enter the set value with the 10-key.
2. Press the [START] key.

Output is made with the entered value for 30sec. and the display returns to the original state.

|               |     |
|---------------|-----|
| Setting range | 1-8 |
| Default       | 5   |

| NO. | Set value | Grid High | Grid Low |
|-----|-----------|-----------|----------|
| 1   | 480       | –480V     | –350V    |
| 2   | 505       | –505V     | –375V    |
| 3   | 530       | –530V     | –400V    |
| 4   | 555       | –555V     | –425V    |
| 5   | 580       | –580V     | –450V    |
| 6   | 605       | –605V     | –475V    |
| 7   | 630       | –630V     | –500V    |
| 8   | 655       | –655V     | –525V    |

Min. unit: 25V increment

- \*1. The negative value of the set value corresponds to the grid high output voltage.
- \*2. The set values can be selected from the above 8 patterns only.
- \*3. The selected pattern determines the grid high voltage and the grid low voltage.  
If, for example, the grid high voltage is set to –480V (pattern 1), the grid low voltage is –350V.

#### SIMULATION 8-15

MHV(L) FAX SETTING. INPUT VALUE 1-8, AND PRESS START.

5

9

9-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check and adjust the operation of the load (motor) in the duplex section and the control circuit. |
| <b>Section</b>            | Duplex  |
| <b>Item</b>               | Operation   |

#### Operation/procedure

1. Select the operation mode with the 10-key.
2. Press the [START] key.

The operation is performed for 30sec, and the display returns to the original state.

| Item | Content  |
|------|--|
| 1    | DMF600 Duplex motor/Duplex 2 motor forward rotation (600dpi)   |
| 2    | DMF1200 Duplex motor/Duplex 2 motor forward rotation (1200dpi) |
| 3    | DMR600 Duplex motor/Duplex 2 motor reverse rotation (600dpi)   |
| 4    | DMR1200 Duplex motor/Duplex 2 motor reverse rotation (1200dpi) |

#### SIMULATION 9-1

DUPLEX MOTOR CHECK. SELECT 1-4, AND PRESS START.  
1:DMF600 2:DMF1200 3:DMR600  
4:DMR1200

2

9-4

|                           |                          |
|---------------------------|--------------------------|
| <b>Purpose</b>            | Operation test/check     |
| <b>Function (Purpose)</b> | Duplex motor RPM setting |
| <b>Section</b>            | Duplex                   |
| <b>Item</b>               | Operation                |

## Operation/procedure

Enter the set value with the 10-key.

When the duplex motor setting is made, the duplex 2motor is also set accordingly.

|               |      |
|---------------|------|
| Setting range | 1-13 |
| Default       | 3    |

### SIMULATION 9-4

DUPLEX MOTOR SPEED SETTING. INPUT VALUE 1-13, AND PRESS START.

3

9-5

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to adjust the timing of switching from normal rotation to reverse rotation or from reverse rotation to normal rotation of the duplex motor. |

## Operation/procedure

1. Touch the item to set.
2. Enter the set value with the 10-key, and press the [START] key.

| Item      | Installation range | Default |
|-----------|--------------------|---------|
| 1 600dpi  | 18-76              | 18      |
| 2 1200dpi |                    | 50      |

### SIMULATION 9-5

DUPLEX MOTOR SW BACK TIME SETTING. INPUT VALUE 18-76, AND PRESS START.

1: 600dpi 18  
2: 1200dpi 50

18

1/1

↑

↓

OK

# 10

10-0

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the toner motor and its control circuit.               |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Developer/Toner hopper |
| <b>Item</b>               | Operation   |

## Operation/procedure

Press the [START] key and operate the toner motor for 30 sec.

### SIMULATION 10

TONER MOTOR ACTIVATION. PRESS START.

# 14

14-0

|                           |  |       |
|---------------------------|--|-------|
| <b>Purpose</b>            | Clear/Cancel (Trouble etc.)                            |       |
| <b>Function (Purpose)</b> | Used to cancel excluding the self-diag U2/PF troubles. |       |
| <b>Item</b>               | Trouble  | Error |

## Operation/procedure

1. Press the [START] key.
2. When "1: YES" is selected, troubles other than U2 and PF are canceled. (When "2: NO" is selected, the simulation is canceled.)

### SIMULATION 14

TROUBLE CANCELLATION(WITHOUT U2, PF). PRESS START.

# 16

16-0

|                           |  |       |
|---------------------------|--|-------|
| <b>Purpose</b>            | Clear/Cancel (Trouble etc.)              |       |
| <b>Function (Purpose)</b> | Used to cancel the self-diag U2 trouble. |       |
| <b>Item</b>               | Trouble                                  | Error |

## Operation/procedure

1. Press the [START] key.
2. When "1: YES" is selected, U2 trouble is canceled. (When "2: NO" is selected, the simulation is canceled.)

### SIMULATION 16

U2 TROUBLE CANCELLATION. PRESS START.

# 17

17-0

|                           |  |       |
|---------------------------|--|-------|
| <b>Purpose</b>            | Cancel (Trouble, etc)                      |       |
| <b>Function (Purpose)</b> | Used to cancel the self diag "PF" trouble. |       |
| <b>Item</b>               | Trouble                                    | Error |

## Operation/Procedure

1. Press the [START] key.
2. When "1: YES" is selected, PF trouble is canceled. (When "2: NO" is selected, the simulation is canceled.)

### SIMULATION 17

PF TROUBLE CANCELLATION. PRESS START.

# 21

21-1

|                           |                                    |         |
|---------------------------|------------------------------------|---------|
| <b>Purpose</b>            | Setting                            |         |
| <b>Function (Purpose)</b> | Used to set the maintenance cycle. |         |
| <b>Item</b>               | Specifications                     | Counter |

## Operation/procedure

- Enter the set value with the 10-key.
- Press the [START] key.

| Item | Content       |
|------|---------------|
| 0    | 5K            |
| 1    | 10K           |
| 2    | 20K           |
| 3    | 25K           |
| 4    | 50K           |
| 5    | 75K (Default) |
| 6    | FREE          |

### SIMULATION 21-1

MAINTENANCE CYCLE SETUP. SELECT 0-6, AND PRESS START.

0:5K  
1:10K  
2:20K  
3:25K  
4:50K  
5:75K  
6:FREE

5

22

22-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print) |
| <b>Function (Purpose)</b> | Used to check the counter value of each section.               |
| <b>Item</b>               | Counter  |

## Operation/procedure

Each counter is displayed.

|             |                      |
|-------------|----------------------|
| TOTAL       | Total                |
| MAINTENANCE | Maintenance          |
| DEVE        | Developer counter *1 |
| DRUM        | Drum counter         |
| COPY        | Copy counter         |
| PRINTER     | Printer counter      |
| IMC         | IMC counter          |
| DUPLEX      | Duplex counter       |
| OTHERS      | The other counters   |
| FAX SEND    | FAX Send counter     |
| FAX RCV     | FAX receive counter  |
| FAX OUTPUT  | FAX print counter    |

The counter display is in 7 digits.

### SIMULATION 22-1

COUNTER DATA DISPLAY.

|         |           |             |           |
|---------|-----------|-------------|-----------|
| TOTAL   | : nnnnnnn | MAINTENANCE | : nnnnnnn |
| DEVE    | : nnnnnnn | DRUM        | : nnnnnnn |
| COPY    | : nnnnnnn | PRINTER     | : nnnnnnn |
| IMC     | : nnnnnnn | DUPLEX      | : nnnnnnn |
| OTHERS  | : nnnnnnn | FAX SEND    | : nnnnnnn |
| FAX RCV | : nnnnnnn | FAX OUTPUT  | : nnnnnnn |

22-2

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)   |
| <b>Function (Purpose)</b> | Used to check the total numbers of misfeed and troubles. (When the number of misfeed is considerably great, it is judged as necessary for repair. The misfeed rate is obtained by dividing this count value with the total counter value.) |
| <b>Item</b>               | Trouble  |

## Operation/procedure

Each counter data are displayed.

|              |                      |
|--------------|----------------------|
| PAPER JAM    | JAM counter          |
| SPF/RSPF JAM | SPF/RSPF JAM counter |
| TROUBLE      | Trouble counter      |

The counter display is in 7 digits.

### SIMULATION 22-2

JAM/TROUBLE COUNTER DATA DISPLAY.

PAPER JAM : nnnnnnn  
SPF JAM : nnnnnnn  
TROUBLE : nnnnnnn

22-3

|                           |   |          |
|---------------------------|---|----------|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)  |          |
| <b>Function (Purpose)</b> | Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.) |          |
| <b>Item</b>               | Trouble   | Mis-feed |

## Operation/procedure

The misfeed history is displayed in the sequence of recentness by the name of sensors and detectors. Max. 40 items of information can be stored in memory. (The old ones are deleted sequentially.) The trouble section may be determined by the data.

(Jam cause code)

| Item       | Jam contents                         |
|------------|--------------------------------------|
| TRAY1      | 1st cassette pick-up miss            |
| TRAY2      | 2nd cassette pick-up miss            |
| TRAY3      | 3rd cassette pick-up miss            |
| TRAY4      | 4th cassette pick-up miss            |
| BPT        | Multi manual feed pick-up miss       |
| PPD1_ND    | Paper-in sensor lead edge jam        |
| PPD1_ST    | Paper-in sensor rear edge jam        |
| PPD1_DUP   | Paper-in sensor reverse jam          |
| PPD2_ND    | Duplex sensor lead edge jam          |
| PPD2_ST    | Duplex sensor rear edge jam          |
| POD2_ND    | Upper stage paper exit lead edge jam |
| POD2_ST    | Upper stage paper exit rear edge jam |
| POD1_ND    | Lower stage paper exit lead edge jam |
| POD1_ST    | Lower stage paper exit rear edge jam |
| PINT_SHORT | Abnormality between PS papers.       |
| PFD2_ND    | 2nd paper pass lead edge jam         |
| PFD2_ST    | 2nd paper pass rear edge jam         |
| PFD3_ND    | 3rd paper pass lead edge jam         |
| PFD3_ST    | 3rd paper pass rear edge jam         |
| PFD4_ND    | 4th paper pass lead edge jam         |
| PFD4_ST    | 4th paper pass rear edge jam         |
| SIZE_SHORT | Duplex short scale error             |
| FIN_INPDND | Finisher paper entry jam             |
| FIN_T10D   | Finisher escape tray jam             |
| FIN_T20D   | Finisher offset tray jam             |
| FIN_STPL   | Finisher staple tray jam             |
| PPD1_ND2   | Reverse sensor lead edge jam         |
| PPD1_ST2   | Reverse sensor rear edge jam         |

#### SIMULATION 22-3

##### PAPER JAM HISTORY.

XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX

22-4

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print) |
| <b>Function (Purpose)</b> | Used to check the total trouble (self diag) history.           |
| <b>Item</b>               | Trouble  |

#### Operation/procedure

The trouble error codes are displayed in the sequence of the latest one first. Max. 40 items of information are stored. (Older ones are deleted in sequence.) The machine condition can be estimated by this data.

#### SIMULATION 22-4

##### TROUBLE HISTORY.

XX-XX XX-XX XX-XX XX-XX XX-XX XX-XX  
XX-XX XX-XX XX-XX XX-XX XX-XX XX-XX  
XX-XX XX-XX XX-XX XX-XX XX-XX XX-XX

22-5

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Setting/Check                              |
| <b>Function (Purpose)</b> | Used to check the ROM version of each unit (section). |
| <b>Item</b>               | Software  |

#### Operation/procedure

Used to display the ROM version of each section.

[Display example]

ROM version 1.250 → [1.25] (up to 2 decimal places)

The display of the protocol monitor and the soft SW follows this display.

|          |  |
|----------|--|
| S/N      | Machine serial number  |
| MCU      | Main Control Unit  |
| IMC      | IMC  |
| OPE      | Panel + Panel label code   |
| PRINTER  | PRINTER  |
| NIC      | NIC (For the Soft Nic, the Soft Nic version is displayed. When the AR-NC5 is installed, the AR-NC5J version is displayed.) |
| FINISHER | FINISHER   |
| FAX      | FAX  |

If it is not installed, "-----" is displayed.

[Label code display]

Contents of "XXX" section on the display below

| Panel display | Destination                | Selection code | Panel software support language   |
|---------------|----------------------------|----------------|---|
| JPN           | Japan                      |                | Japanese, American English, English   |
| EFS           | SEC                        | AJ/AM          | American English, English, French, Spanish  |
|               | SECL                       | AL/AC          |   |
|               | SUK                        | BK/BB          |   |
| EEU           | SEEG/SEA/East Europe, etc. | GG/GD          | English, German, Polish, Czech, Hungarian, Greek, Turkish, Russian, French, Italian, Slovak |

| Panel display | Destination                        | Selection code  |     | Panel software support language   |
|---------------|------------------------------------|-----------------|-----|---|
| NEU           | SEF/<br>SEES/<br>SEIS/SEN,<br>etc. | BG/DG/<br>BD/DD |     | English, German, French,<br>Spanish, Dutch, Italian,<br>Portuguese, Swedish,<br>Norwegian, Finnish,<br>Danish |
|               | SCA/SCNZ                           | BA/BN           |     | American English, English,<br>French, Spanish   |
|               | Distributor<br>area                |                 |     |   |
| CHN           | SOCC                               | BZ              | UE5 | Simplified Chinese,<br>American English, English  |
| TWN           | Taiwan                             | BE/BT           | UT1 | Traditional Chinese (Local<br>support), American<br>English, English  |
| EFS *1        | Special<br>countries               |                 |     | American English, English,<br>French, Spanish, Hebrew<br>(Local support)                                      |

\*1: Display at the current state

#### SIMULATION 22-5

##### ROM VERSION DATA DISPLAY.

S/N :0000000000  
MCU :00.00  
IMC :00.00  
OPE :00.00 XXX  
PRINTER :00.00  
NIC :00.00  
FINISHER:00.00  
FAX :00.00

Panel label code

22-6

|                           |  |                         |
|---------------------------|--|-------------------------|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)                                       |                         |
| <b>Function (Purpose)</b> | Used to print each key operator setting, the account information, and the machine adjustment values. |                         |
| <b>Item</b>               | Data   | Setting/adjustment data |

#### Operation/Procedure

(Initial screen)

The currently set value is highlighted beside the adjustment item.

1. Select the adjustment item with the 10-key.
2. Press the [START] key.  
The display is shifted to the copy menu and the set value is stored.
3. Select the paper feed tray and the print density.
4. Press the [START] key.  
Copying is started. (Printing at 1200dpi cannot be made.)

After canceling a jam (After picking up, the [C] key is invalid.)

When the other information is repeatedly printed, the display may show the message, "Remove original from original table." However, the operation is performed normally.

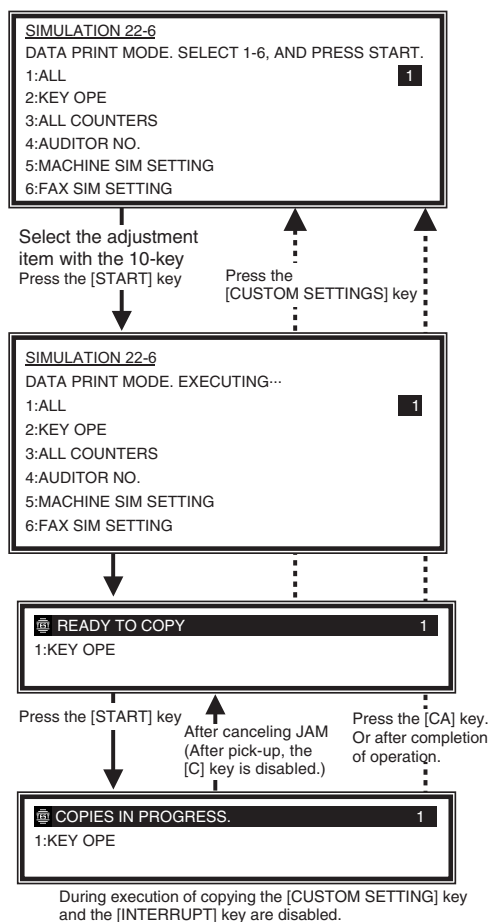
| Item                  | Content  |
|-----------------------|--|
| 1 ALL                 | All lists group print  |
| 2 KEY OPE             | Key operator information list  |
| 3 ALL COUNTERS        | List of total number of prints   |
| 4 AUDITOR NO.         | Department number list   |
| 5 MACHINE SIM SETTING | Machine simulation setting list  |
| 6 FAX SIM SETTING*1   | FAX simulation setting list (Only when the FAX board is installed. The display does not go to the print data transfer display, but to the FAX SIM menu.) |

\* When the IMC board is not installed, key input is disabled.

\* Duplex print cannot be made.

\* For the FAX SIM setting list, the display and the operating procedures differ.

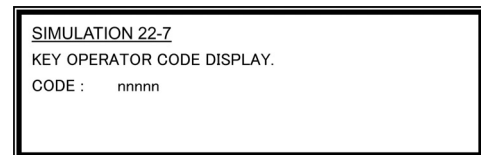
Note: When the simulation is canceled, the display returns to the original state but the machine is not reset.



|                           |  |           |
|---------------------------|--|-----------|
| <b>Purpose</b>            | User data output/Check (Display/Print)   |           |
| <b>Function (Purpose)</b> | Used to display the key operator code. (Use when the customer key operator code is forgotten.) |           |
| <b>Item</b>               | Data   | User data |

#### Operation/procedure

Used to display the key operator code.



|                           |  |  |
|---------------------------|--|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print) |  |
| <b>Function (Purpose)</b> | Used to display the original, staple counter.                  |  |
| <b>Item</b>               | Counter  |  |

#### Operation/procedure

Each counter is displayed.

|        |                  |
|--------|------------------|
| SPF    | SPF/RSPF counter |
| SCAN   | Scan counter     |
| STAPLE | Stapler counter  |

The counter display is in 7 digits.

|                                   |           |
|-----------------------------------|-----------|
| <b>SIMULATION 22-8</b>            |           |
| ORG./STAPLE COUNTER DATA DISPLAY. |           |
| SPF                               | : nnnnnnn |
| SCAN                              | : nnnnnnn |
| STAPLE                            | : nnnnnnn |

|                           |  |
|---------------------------|--|
| <b>22-9</b>               |  |
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)                     |
| <b>Function (Purpose)</b> | Used to check the number of use of each paper feed section. (the number of prints) |
| <b>Section</b>            | Paper feed   |
| <b>Item</b>               | Counter  |

#### Operation/procedure

Used to display each paper feed counter.

|        |                     |       |                |
|--------|---------------------|-------|----------------|
| BYPASS | Manual feed counter | TRAY3 | Tray 3 counter |
| TRAY1  | Tray 1 counter      | TRAY4 | Tray 4 counter |
| TRAY2  | Tray 2 counter      |       |                |

The counter display is in 7 digits.

|                                  |           |
|----------------------------------|-----------|
| <b>SIMULATION 22-9</b>           |           |
| PAPER FEED COUNTER DATA DISPLAY. |           |
| BYPASS                           | : nnnnnnn |
| TRAY1                            | : nnnnnnn |
| TRAY2                            | : nnnnnnn |
| TRAY3                            | : nnnnnnn |
| TRAY4                            | : nnnnnnn |

|                    |  |        |
|--------------------|--|--------|
| 22-10              |  |        |
| Purpose            | Adjustment/setting/operation data output/check (display/print) |        |
| Function (Purpose) | Used to check the system configuration.                        |        |
| Item               | Specifications   | Option |

#### Operation/procedure

The detected machine composition is displayed.

(The job separator cannot be detected. Based on SIM 26-1 setting.)

| Item      | Display items                         |
|-----------|---------------------------------------|
| SPEED     | 23CPM/27CPM/26CPM                     |
| DF        | NONE/[1: SPF]/[2: RSPF]               |
| OUTPUT    | NONE/[3: Finisher]/[4: Job separator] |
| CASSETTE1 | NONE/[5: One-step paper feed unit]    |
| CASSETTE2 | NONE/[6: Two-step paper feed unit]    |
| IMC MEM   | NONE/Expansion memory capacity (MB)   |
| PRINTER   | NONE/[7: PRINTER]                     |
| PS3       | NONE/[8: PS3]                         |
| NIC       | NONE/[9: NIC]                         |
| SCANNER   | NONE/[10: SCANNER]                    |
| FAX       | NONE/[11: FAX]                        |
| FAX MEM   | NONE/Memory capacity (MB)             |
| HAND SET  | NONE/[12: Handset]                    |

NONE: When it is not installed, "- - - - -" is displayed.

[ ]: Shows the product code in the list below.

| No. | Item                   | Model code                          |
|-----|------------------------|-------------------------------------|
| 1   | RSPF                   | AR-RP7                              |
| 2   | Finisher               | AR-FN5N<br>AR-F14 (Saddle finisher) |
| 3   | Job separator          | AR-TR3                              |
| 4   | 1 tray paper feed unit | AR-D21 (*1)                         |
| 5   | 2 tray paper feed unit | AR-D22 (*1)                         |
| 6   | PRINTER                | AR-P17                              |
| 7   | PS3                    | AR-PK1                              |
| 8   | NIC                    | AR-NC5J                             |
| 9   | SCANNER                | AR-NS2                              |
| 10  | FAX                    | AR-FX7                              |
| 11  | Handset                | AR-HN4                              |

\*1: The number of installed units is displayed beside the model code.

For the cassettes, only the option cassette is displayed.

For the job separator, the printer, and the PS3, which are provided as standard provision, and when the GDI is installed, they are displayed as STANDARD.

For the scanner, however, even though it is a standard unit, its model name is displayed. For the NIC, when the SoftNic is installed, it is not displayed. When the NIC board is installed, its model name is displayed.

```
SIMULATION 22-10
SYSTEM INFORMATION.
SPEED   : XXXXXXXX   DF      : XXXXXXXX
OUTPUT  : XXXXXXXX   CASSETTE1: XXXXXXXX
CASSETTE2: XXXXXXXX   IMC MEM : XXXXXXXX
PRINTER : XXXXXXXX   PS3      : XXXXXXXX
NIC      : XXXXXXXX   SCANNER  : XXXXXXXX
FAX      : XXXXXXXX   FAX MEM  : XXXXXXXX
HAND SET: XXXXXXXX
```

22-11

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)                  |
| <b>Function (Purpose)</b> | Used to display the FAX send/receive counter (FAX reception and print counter). |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Counter   |

#### Operation/procedure

Used to display the FAX send/receive counter.

|                       |                              |
|-----------------------|------------------------------|
| FAX SEND PAGE/TIME    | FAX send page and time       |
| FAX RECEIVE PAGE/TIME | FAX receive page and time    |
| FAX OUTPUT            | FAX output (number of print) |

The counter display is in 7 digits.

Note: Executable only when the FAX is installed.

```
SIMULATION 22-11
FAX COUNTER DATA DISPLAY.
FAX SEND   PAGE : ***** TIME : hhhhhhhh : mm : ss
FAX RECEIVE PAGE : ***** TIME : hhhhhhhh : mm : ss
FAX OUTPUT : *****
```

22-12

|                           |   |         |
|---------------------------|---|---------|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)  |         |
| <b>Function (Purpose)</b> | Used to check the misfeed positions and the number of misfeed at each position. (When the number of misfeed is considerably great, it can be judged as necessary for repair.) |         |
| <b>Section</b>            | SPF/RSPF  |         |
| <b>Item</b>               | Trouble   | Misfeed |

#### Operation/procedure

Used to display the SPF/RSPF jam history data sequentially from the latest one.

Forty SPF/RSPF jam histories are displayed sequentially from the latest.

| Error code | Name                             | Sensor name      | Paper Reached/ Not Reached to the sensor |
|------------|----------------------------------|------------------|--|
| DFD_ND     | SPF/RSPF paper in lead edge jam  | SPF P-IN sensor  | Not Reached                              |
| DFD_ST     | SPF/RSPF paper in rear edge jam  | SPF P-IN sensor  | Reached                                  |
| RDD_ND     | SPF/RSPF paper out lead edge jam | SPF P-IN sensor  | Reached, P_OUT Not Reached               |
| RDD_ST     | SPF/RSPF paper out rear edge jam | SPF P-OUT sensor | Reached, P_IN passed (OFF)               |
| JAM_REV    | SPF/RSPF duplex reverse jam      | SPF P-IN sensor  | Not Reached (Paper after reversing)      |
| ORG_SHORT  | SPF/RSPF short size error        | SPF P-IN sensor  | Passed (OFF at JAM)                      |
| ORG_LONG   | SPF/RSPF long size error         | SPF P-OUT sensor | Reached                                  |
|            |                                  | SPF P-IN sensor  | Reached                                  |

```
SIMULATION 22-12
SPF JAM HISTORY.
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX
XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX
```

22-13

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print) |
| <b>Function (Purpose)</b> | Used to display the CRUM type.                                 |
| <b>Item</b>               | Specifications   |

#### Operation/Procedure

Used to display the CRUM type.

| Item | Content               |
|------|-----------------------|
| 00   | Not fixed.            |
| 01   | AR-A                  |
| 02   | AR-B                  |
| 03   | AR-C                  |
| 04   | DM (VER)              |
| 05   | DM (WEB)              |
| 06   | CHINA                 |
| 99   | Conversion completed. |

```
SIMULATION 22-13
CRUM TYPE DISPLAY.
CRUM TYPE   nn
```

22-19

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)   |
| <b>Function (Purpose)</b> | Used to display the scanner counter in the network scanner mode. |
| <b>Section</b>            | Network scanner  |
| <b>Item</b>               | Counter  |

#### Operation/procedure

Used to display the scanner counter.

|          |                      |
|----------|----------------------|
| SCANMODE | Scanner mode counter |
|----------|----------------------|

The counter display is in 7 digits.

**SIMULATION 22-19**

SCAN MODE COUNTER DATA DISPLAY.

SCANMODE: nnnnnnn

**24****24-1**

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Data clear  |
| <b>Function (Purpose)</b> | Used to clear the misfeed counter, the misfeed history, the trouble counter, and the trouble history. (The counters are cleared after completion of maintenance.) |
| <b>Section</b>            | Memory  |
| <b>Item</b>               | Counter   |

**Operation/procedure**

Jam/trouble counter is cleared individually. (The history of each counter is deleted when clearing)

1. Select the counter to be cleared with the 10-key.
2. Press the [START] key.  
The confirmation menu is shown.
3. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

| Item      | Content                                   |
|-----------|---|
| 1 JAM     | JAM counter/JAM history                   |
| 2 SPF JAM | SPF/RSPF JAM counter/SPF/RSPF JAM history |
| 3 TROUBLE | Trouble counter/Trouble history           |

**SIMULATION 24-1**

JAM/TROUBLE COUNTER DATA CLEAR. SELECT 1-3, AND PRESS START.

1:JAM 2:SPF JAM 3:TROUBLE

2

**24-2**

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Data clear   |
| <b>Function (Purpose)</b> | Used to clear the number of use (the number of prints) of each paper feed section. |
| <b>Section</b>            | Paper feed   |
| <b>Item</b>               | Counter  |

**Operation/procedure**

Used to clear each paper feed counter individually.

1. Select the counter to be cleared with the 10-key.
2. Press the [START] key. The confirmation menu is shown.
3. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

| Item     | Content             |
|----------|---------------------|
| 1 BYPASS | Manual feed counter |
| 2 TRAY1  | Tray 1 counter      |
| 3 TRAY2  | Tray 2 counter      |
| 4 TRAY3  | Tray 3 counter      |
| 5 TRAY4  | Tray 4 counter      |

**SIMULATION 24-2**

PAPER FEED COUNTER DATA CLEAR. SELECT 1-5, AND PRESS START.

1:BYPASS 2:TRAY1 3:TRAY2  
4:TRAY3 5:TRAY4

2

**24-3**

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Data clear   |
| <b>Function (Purpose)</b> | Used to clear the number data of use of the staple, the SPF/RSPF and scanning. |
| <b>Section</b>            | Transport/Finisher   |
| <b>Item</b>               | Counter  |

**Operation/procedure**

Used to clear the original and staple counters individually.

1. Select the counter to be cleared with the 10-key.
2. Press the [START] key.  
The confirmation menu is shown.
3. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

| Item     | Content          |
|----------|------------------|
| 1 SPF    | SPF/RSPF counter |
| 2 SCAN   | Scan counter     |
| 3 STAPLE | Stapler counter  |

**SIMULATION 24-3**

ORG./STAPLE COUNTER DATA CLEAR. SELECT 1-3, AND PRESS START.

1:SPF 2:SCAN 3:STAPLE

2

**24-4**

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Data clear                             |
| <b>Function (Purpose)</b> | Used to reset the maintenance counter. |
| <b>Item</b>               | Counter                                |

**Operation/procedure**

1. Press the [START] key. The confirmation menu is shown.
2. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

**SIMULATION 24-4**

MAINTENANCE COUNTER DATA CLEAR. PRESS START.

**24-5**

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Data clear   |
| <b>Function (Purpose)</b> | Used to reset the developer counter. (The developer counter of the DV unit which is installed is reset.) |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Developer/Toner hopper                    |
| <b>Item</b>               | Counter Developer  |

**Operation/procedure**

1. Press the [START] key.  
The confirmation menu is shown.
2. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

**SIMULATION 24-5**

DEVELOPER COUNTER DATA CLEAR. PRESS START.

24-6

|                           |                                 |        |
|---------------------------|---------------------------------|--------|
| <b>Purpose</b>            | Data clear                      |        |
| <b>Function (Purpose)</b> | Used to clear the copy counter. |        |
| <b>Item</b>               | Counter                         | Copier |

**Operation/procedure**

1. Press the [START] key.  
The confirmation menu is shown.
2. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

SIMULATION 24-6

COPY COUNTER DATA CLEAR. PRESS START.

24-7

|                           |   |  |
|---------------------------|---|--|
| <b>Purpose</b>            | Data clear  |  |
| <b>Function (Purpose)</b> | Used to clear the OPC drum (membrane decrease) correction counter. (This simulation is executed when the OPC drum is replaced.) |  |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)<br>Photo conductor  |  |
| <b>Item</b>               | Counter   |  |

**Operation/procedure**

1. Press the [START] key.  
The confirmation menu is shown.
2. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

SIMULATION 24-7

DRUM COUNTER DATA CLEAR. PRESS START.

24-9

|                           |   |         |
|---------------------------|---|---------|
| <b>Purpose</b>            | Data clear  |         |
| <b>Function (Purpose)</b> | Used to clear the printer counter and other counters. (The counter is cleared after completion of maintenance.) |         |
| <b>Section</b>            | Printer   |         |
| <b>Item</b>               | Counter   | Printer |

**Operation/procedure**

1. Select the counter to be cleared with the 10-key.
2. Press the [START] key.  
The confirmation menu is shown.
3. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

|   | Item    | Content            |
|---|---------|--------------------|
| 1 | PRINTER | Printer counter    |
| 2 | IMC     | IMC counter        |
| 3 | DUPLEX  | DUPLEX counter     |
| 4 | OTHERS  | The other counters |

SIMULATION 24-9

PRINTER/OTHERS COUNTER DATA CLEAR. SELECT 1-4, AND PRESS START.

1:PRINTER 2:IMC 3:DUPLEX 4:OTHERS

2

24-10

|                           |                        |  |
|---------------------------|------------------------|--|
| <b>Purpose</b>            | Data clear             |  |
| <b>Function (Purpose)</b> | FAX counter data clear |  |
| <b>Section</b>            | FAX                    |  |
| <b>Item</b>               | Counter                |  |

**Operation/procedure**

1. Select the "3: NUMBER OF PRINTS", and press the [START] key.  
The confirmation menu is shown.
2. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

|   | Item                      | Content                       |
|---|---------------------------|-------------------------------|
| 1 | FAX SEND (PAGE & TIME)    | FAX send page and time        |
| 2 | FAX RECEIVE (PAGE & TIME) | FAX receive page and time     |
| 3 | FAX OUTPUT                | FAX output (number of prints) |

Note: Executable only when the FAX is installed.

SIMULATION 24-10

FAX OUTPUT COUNTER DATA CLEAR. PRESS START.

24-15

|                           |  |  |
|---------------------------|--|--|
| <b>Purpose</b>            | Data clear   |  |
| <b>Function (Purpose)</b> | Used to clear the scanner counter in the network scanner mode. |  |
| <b>Section</b>            | Scanner section  |  |
| <b>Item</b>               | Counter  |  |

**Operation/procedure**

1. Press the [START] key.  
The confirmation menu is shown.
2. Select "1: YES."  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

The scanner mode counter and the number of send of the scanner are cleared.

\* The simulation to perform communication with the PCL is inhibited until Notice Page storing is completed. (Only when the serviceman call error occurs.)

\* When in other than the serviceman call error, entering the simulation is not allowed from the system check display.

SIMULATION 24-15

SCAN MODE COUNTER DATA CLEAR. PRESS START.

25

25-1

|                           |  |  |
|---------------------------|--|--|
| <b>Purpose</b>            | Operation test/check   |  |
| <b>Function (Purpose)</b> | Used to check the operation of the main drive (excluding the scanner section) and to check the operation of the toner concentration sensor. (The toner concentration sensor output can be monitored.) (To be supported for Ver.00.72 or later) |  |
| <b>Section</b>            | DRIVE  |  |
| <b>Item</b>               | Operation  |  |



### Operation/procedure

1. Select the speed (600dpi, 1200dpi) with the 10-key.
2. Press the [START] key.  
The main motor rotates to start monitoring the toner density control sensor. (3min operation)

After execution, interruption cannot be made for about 7 sec. ([CA] key and [CUSTOM SETTINGS] key are disabled.)

- \* Even in toner end error, if there is no other error (including cover open) after turning on the power, this simulation can be performed.

**SIMULATION 25-1**  
MAIN MOTOR CHECK. SELECT 1-2, AND PRESS START.  
1:600dpi  
2:1200dpi

25-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to make the initial setting of toner concentration when replacing developer. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)                       |
|                           | Developer/Toner hopper  |

### Operation/procedure

- 1) Open the cover with the power OFF.
- 2) Turn on the power. (Since the cover is open, the machine does not perform initializing.)
- 3) Install the developing tank.
- 4) Execute the simulation.
- 5) Enter SIM 25-2. ([25] → [START] key → [2] → [START] key)
- 6) Open the cover just before starting the simulation.
- 7) Press the [START] key.

The main motor rotates. After stirring for 3 min, the toner density control sensor value is sampled 16 times, and the average value is stored.

When "EE-EU" or "EE-EL" after completion, an error display is shown.

Note: After completion of execution, be sure to press the [CA] key to cancel the simulation.

### [CRUM-related error cancel procedure]

- When "CRUM DEVICE ERROR" is displayed:  
Error content: Occurs in case of a communication error between the machine and CRUM.  
Cancel procedure: Reset with [CA] key and cancel with SIM 16.
- "CRUM DATA ERROR"  
Error content: CRUM identification error, CRUM model error, CRUM type error, CRUM destination error  
Cancel procedure: Install the CRUM which is satisfactory with the machine setup, reset with the [CA] key, and execute SIM 25-2 again.
- "DEVE UNIT NONE"  
Error content: Occurs when the developing unit is not installed in an AR model.  
Cancel procedure: It returns to the state before execution of auto developer adjustment. It is canceled by the operations of Cover open → Developing unit installation → Cover close. Therefore, developer adjustment is started by pressing [START] key.
- "TONER UNIT NONE"  
Error content: Occurs when the CRUM is not installed in a DM model.  
Cancel procedure: It returns to the state before execution of auto developer adjustment. It is canceled by the operations of Cover open → CRUM installation → Cover close. Therefore, developer adjustment is started by pressing [START] key.

### • "EU ERROR"

Error content: Occurs when the toner concentration reference value calculated in developer adjustment finally is 179 or greater.

Cancel procedure: Reset with [CA] key and execute SIM 25-2 again.

### • "EL ERROR"

Error content: Occurs when the toner concentration reference value calculated in developer adjustment finally is 77 or smaller.

Cancel procedure: Reset with [CA] key and execute SIM 25-2 again.

**SIMULATION 25-2**  
AUTOMATIC DV ADJUSTMENT. PRESS START.

## 26

26-1

|                           |   |        |
|---------------------------|---|--------|
| <b>Purpose</b>            | Setting   |        |
| <b>Function (Purpose)</b> | Used to set whether the job separator is installed or not. (Since this cannot be detected by hardware detection, it is set in this simulation.) |        |
| <b>Item</b>               | Specifications  | Option |

### Operation/procedure

1. Select the set value with the 10-key.
2. Press the [START] key.

|           |                         |
|-----------|-------------------------|
| Set value | Connection option       |
| 0         | None (default)          |
| 1         | Job separator provided. |

**SIMULATION 26-1**  
OPTION SETTING. SELECT 0-1, AND PRESS START.  
0:NONE  
1:JOB SEPARATOR

26-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to set whether the automatic detection of paper size is made or not. |
| <b>Section</b>            | Paper feed  |
| <b>Item</b>               | Specifications  |

### Operation/procedure

1. Select the item with the 10-key and press the [START] key.  
Used to set the automatic size detection.
2. Set whether automatic detection of paper size is made or not with the 10-key.

|            |   |
|------------|---|
| 1:B4/LG,FC | Setting to detect B4/Legal as FC<br>0: B4 legal is detected as B4 legal. (Default)<br>1: B4 legal is detected as FC.                          |
| 2:A4<->LT  | This setup detects Letter as A4 in the inch series and A4 as Letter in the AB series.<br>0: Detection disable (Default)<br>1: Detection valid |

8.5" x 13" detection valid/invalid setup

|           |                   |         |
|-----------|-------------------|---------|
| Set value | Setup             | Remarks |
| 0         | Detection invalid | Default |
| 1         | Detection valid   |         |

Detection size when 8.5" x 13" document/paper is used.

|          | Employed unit               | Destination       | Document size   | Set value                |                 |
|----------|-----------------------------|-------------------|-----------------|--------------------------|-----------------|
|          |                             |                   |                 | 0<br>(Invalid)           | 1<br>(Valid)    |
| Document | Document table/RSPF         | AB series (Japan) | FC (8.5" x 13") | B4                       | B4              |
|          |                             |                   | LG (8.5" x 14") | B4                       | B4              |
|          |                             |                   | B4              | B4                       | B4              |
|          |                             | AB series         | FC (8.5" x 13") | B4                       | FC (8.5" x 13") |
|          |                             |                   | LG (8.5" x 14") | B4                       | FC (8.5" x 13") |
|          |                             |                   | B4              | B4                       | FC (8.5" x 13") |
|          |                             | Inch series       | FC (8.5" x 13") | LG (8.5" x 14")          | FC (8.5" x 13") |
|          |                             |                   | LG (8.5" x 14") | LG (8.5" x 14")          | FC (8.5" x 13") |
|          |                             |                   | B4              | WLT (11" x 17")          | WLT (11" x 17") |
| Paper    | Machine paper feed cassette | All destinations  | —               | Set with key operations. |                 |
|          | Manual paper feed tray      | Japan (AB series) | FC (8.5" x 13") | LG (8.5" x 14")          | LG (8.5" x 14") |
|          |                             |                   | LG (8.5" x 14") | LG (8.5" x 14")          | LG (8.5" x 14") |
|          |                             |                   | B4              | B4                       | B4              |
|          |                             | AB series         | FC (8.5" x 13") | LG (8.5" x 14")          | FC (8.5" x 13") |
|          |                             |                   | LG (8.5" x 14") | LG (8.5" x 14")          | FC (8.5" x 13") |
|          |                             |                   | B4              | B4                       | B4              |
|          |                             | Inch series       | FC (8.5" x 13") | LG (8.5" x 14")          | FC (8.5" x 13") |
|          |                             |                   | LG (8.5" x 14") | LG (8.5" x 14")          | FC (8.5" x 13") |
|          |                             |                   | B4              | B4                       | B4              |

A4/LT (8.5" x 11") detection enable/disable setup

In the inch series, Letter is detected as A4; in the AB series, A4 is detected as Letter.

| Set value | Setup             | Remarks |
|-----------|-------------------|---------|
| 0         | Detection invalid | Default |
| 1         | Detection valid   |         |

Detection size when A4/LT (8.5" x 11") document/paper is used.

|          | Employed unit               | Destination      | Document size   | Set value                           |                 |
|----------|-----------------------------|------------------|-----------------|-------------------------------------|-----------------|
|          |                             |                  |                 | 0<br>(Invalid)                      | 1<br>(Valid)    |
| Document | Document table/RSPF         | AB series        | A4              | A4                                  | LT (8.5" x 11") |
|          |                             |                  | LT (8.5" x 11") | A4                                  | LT (8.5" x 11") |
|          |                             | Inch series      | A4              | LT (8.5" x 11")                     | A4              |
|          |                             |                  | LT (8.5" x 11") | LT (8.5" x 11")                     | A4              |
| Paper    | Machine paper feed cassette | All destinations | —               | Set with key operations.            |                 |
|          | Manual paper feed tray      | All destinations | —               | Regardless of the simulation setup. |                 |

SIMULATION 26-2  
SIZE SETTING. SELECT 1-2, AND PRESS START.  
1:B4/LG,FC 0 1  
2:A4<->LT 0

## 26-3

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the specifications of the auditor. Setting must be made depending on the use condition of the auditor. |
| <b>Section</b>            | Auditor  |
| <b>Item</b>               | Specifications   |

### Operation/procedure

Select the mode corresponding to the auditor specification mode with the 10-key.

| Item | Content | Setting range | Default |
|------|---------|---------------|---------|
| 0    | P10     | 0-2           | 0       |
| 1    | VENDOR  |               |         |
| 2    | OTHER   |               |         |

When "1: VENDOR (Coin vendor mode)" is set, the following three items of key operation setting are changed.

- 1) Set the LCD backlight change inhibit to "1: OFF (Enable)."

- 2) When SIM 26-6 destination setting is set to "0: Japan," duplex copy inhibit setting must be set to "0: ON (Inhibit)."
- 3) Set the sort automatic selection to "0: OFF (Disable)."

SIMULATION 26-3  
AUDITOR SETUP. SELECT 0-2, AND PRESS START.  
0:P10 0  
1:VENDOR  
2:OTHER

## 26-5

|                           |  |         |
|---------------------------|--|---------|
| <b>Purpose</b>            | Setting  |         |
| <b>Function (Purpose)</b> | Used to set the count mode of the total counter and the maintenance counter. |         |
| <b>Item</b>               | Specifications   | Counter |

### Operation/procedure

Used to set the count up number (1 or 2) when an A3/WLT paper passes through.

For the drum counter and the developer counter, double count is employed unconditionally.

(Target counter selection)

| Item |                     | Content     |
|------|---------------------|-------------|
| 1    | TOTAL COUNTER       | Total       |
| 2    | MAINTENANCE COUNTER | Maintenance |

Used to set the count up number of the selected counter.

| Item |                | Content      | Setting range | Default |
|------|----------------|--------------|---------------|---------|
| 1    | 1:SINGLE COUNT | Single count | 1-2           | 2       |
| 2    | 2:DOUBLE COUNT | Double count |               |         |

**SIMULATION 26-5**  
A3(LEDGER) COUNT UP MODE SETTING. SELECT 1-2, AND PRESS START.

1:TOTAL COUNTER       

2:MAINTENANCE COUNTER

26-6

|                           |  |             |
|---------------------------|--|-------------|
| <b>Purpose</b>            | Setting  |             |
| <b>Function (Purpose)</b> | Used to set the specifications depending on the destination. |             |
| <b>Item</b>               | Specifications   | Destination |

#### Operation/procedure

Select the destination with the 10-key.

By changing the destination, some other setting items may be changed.

| Item |         | Content             | Setting range | Default |
|------|---------|---------------------|---------------|---------|
| 0    | JAPAN   | Japan               | 0-13          | 0       |
| 1    | SEC     | SEC                 |               |         |
| 2    | SECL    | SECL                |               |         |
| 3    | SEEG    | SEEG                |               |         |
| 4    | SUK     | SUK                 |               |         |
| 5    | SCA     | SCA                 |               |         |
| 6    | SEF     | SEF                 |               |         |
| 7    | INEG    | EX inch series      |               |         |
| 8    | ABEG    | EX AB series        |               |         |
| 9    | INEF    | EX inch series (FC) |               |         |
| 10   | ABEF    | EX AB series (FC)   |               |         |
| 11   | CHINESE | China               |               |         |
| 12   | TAIWAN  | Taiwan              |               |         |
| 13   | SEEG2   | SEEG2               |               |         |

**SIMULATION 26-6**  
DESTINATION SETUP. SELECT 0-13, AND PRESS START.

0:JAPAN                      1:SEC                     

2:SECL                      3:SEEG

4:SUK                      5:SCA

6:SEF                      7:INEG

8:ABEG                      9:INEF

10:ABEF                      11:CHINESE

12:TAIWAN                      13:SEEG2

26-10

|                           |                                    |  |
|---------------------------|------------------------------------|--|
| <b>Purpose</b>            | Setting                            |  |
| <b>Function (Purpose)</b> | Network scanner trial mode setting |  |
| <b>Section</b>            | Scanner                            |  |

#### Operation/procedure

Enter the set value with the 10-key and press the [START] key.

| Item |       | Content           | Default |
|------|-------|-------------------|---------|
| 0    | END   | Trial mode cancel | 0       |
| 1    | START | Trial mode start  |         |

If the trial scanner counter value is less than 500, the trial mode setting can be repeatedly made. If the scanner trial counter value is 500 or more, the trial mode setting cannot be made.

When the scanner is not set and the scanner trial counter value is less than 500, if "1" is entered in SIM26-10, the trial mode setting is started. If "0" is entered in SIM26-10, the trial mode setting is canceled.

After recognition of the scanner, the trial mode setting cannot be made. (Entering "1" is invalid and a beep sound is produced.)

When this setting is made, the machine must be reset after canceling the simulation. When "1: Trial mode start" is selected, the scanner function is valid. If "0: Trial mode cancel" is selected, the scanner function is invalid.

When setting is invalid (when the scanner is recognized or the scanner trial counter value is 500 or more) in the key operations of the trial mode setting, an invalid sound (beep sound) is made. In the other case, a valid sound is made.

\* When the scanner trial counter value is changed from 500 or more to less than 500, the trial setting is changed from "END" to "SETTING START."

Note: Executable only when the PCL/SCANNER is installed.

**SIMULATION 26-10**  
NETWORK SCANNER TRIAL SETTING. SELECT 0-1, AND PRESS START.

0: END                     

1: START

26-12

|                           |  |  |
|---------------------------|--|--|
| <b>Purpose</b>            | Setting  |  |
| <b>Function (Purpose)</b> | Used to input the Software Key for E-MAIL RIC. |  |
| <b>Section</b>            | E-MAIL RIC                                     |  |
| <b>Item</b>               | Specifications                                 |  |

#### Operation/procedure

The current setup is displayed with ON or OFF.

Enter an input (20 digits) of the E-MAIL RIC soft key with the 10-key and press the [START] key, and the collating result is displayed with OK or NG.

After canceling the simulation, if OK, the E-MAIL RIC function is enable; if NG, the E-MAIL RIC function is disabled.

This setting must be reset after the simulation cancel.

\* If recognition is OK, the E-Mail RIC can be set to Enable. If the FAX is installed, however, the operation cannot be made actually.

Note: Executable only when the PCL/NIC is installed.

**SIMULATION 26-12**  
E-MAIL RIC SOFTWARE KEY INPUT.

E-MAIL KEY    ON

26-14

|                           |  |  |
|---------------------------|--|--|
| <b>Purpose</b>            | Setting  |  |
| <b>Function (Purpose)</b> | Used to input the Software Key for the PS extension kit. |  |
| <b>Section</b>            | Printer  |  |
| <b>Item</b>               | Specifications   |  |

#### Operation/procedure

The current setup is displayed with ON or OFF.

Enter an input (20 digits) of the PS expansion kit soft key with the 10-key and press the [START] key, and the collating result is displayed with OK or NG.

After canceling the simulation, if OK, the PS expansion kit function is enable; if NG, the PS expansion kit function is disabled.

This setting must be reset after the simulation cancel.

Note: Executable only when the PCL/PS3 is installed.

**SIMULATION 26-14**  
PS KIT SOFTWARE KEY INPUT.  
PS KIT KEY ON

26-18

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to set enable/disable of toner save operation. |
| <b>Item</b>               | Specifications      Operation mode (Common)         |

#### Operation/procedure

Input the set value with the 10-key and press the [START] key.

| Item |     | Content | Setting range | Default |
|------|-----|---------|---------------|---------|
| 0    | OFF | Disable | 0-1           | 0       |
| 1    | ON  | Enable  |               |         |

Note: Setup is allowed only for Japan and UK.

**SIMULATION 26-18**  
TONER SAVE MODE SETTING. SELECT 0-1, AND PRESS START.  
0:OFF      1:ON

26-22

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to set the specification (language display) for the destination. |
| <b>Item</b>               | Specifications  |

#### Operation/procedure

Select the display language (language code) with the 10-key according to the table below, and press the [START] key.

This setup varies in connection with SIM 26-6 (Destination setup).

| Item | Language code | ASIC expression | Remarks  |
|------|---------------|-----------------|--|
| 0    | JAPANESE      | ja              | 6A 61  |
| 1    | ENG.US        | en              | 65 6E  |
| 2    | ENG.UK        | gb              | 67 62  |
| 3    | FRENCH        | fr              | 66 72  |
| 4    | GERMAN        | de              | 64 65  |
| 5    | ITALY         | it              | 69 74  |
| 6    | DUTCH         | nl              | 6E 6C  |
| 7    | SWEDISH       | sv              | 73 76  |
| 8    | SPANISH       | es              | 65 73  |
| 9    | PORTUGUESE    | pt              | 70 74  |
| 10   | TURKISH       | tr              | 74 72  |
| 11   | GREEK         | el              | 65 6C  |
| 12   | POLISH        | pl              | 70 6C  |
| 13   | HUNGARIAN     | hu              | 68 75  |
| 14   | CZECH         | cs              | 63 73  |
| 15   | RUSSIAN       | ru              | 72 75  |
| 16   | FINNISH       | fi              | 66 69  |
| 17   | NORWEGIAN     | no              | 6E 6F  |
| 18   | DANISH        | da              | 64 61  |
| 19   | CHINESE       | zh              | 7A 68  |
| 20   | TAIWANESE     | tw              | 74 77<br>Traditional Chinese supported locally |
| 21   | SLOVAK        | sk              | 73 6B  |
| 22   | HEBREW        | he              | 68 65<br>Supported locally                     |

**SIMULATION 26-22**  
LANGUAGE SETTING. SELECT 0-22, AND PRESS START.  
0:JAPANESE      1:ENG.US      2:ENG.UK      0  
3:FRENCH      4:GERMAN      5:ITALY  
6:DUTCH      7:SWEDISH      8:SPANISH  
9:PORTUGUESE      10:TURKISH      11:GREEK  
12:POLISH      13:HUNGARIAN      14:CZECH  
15:RUSSIAN      16:FINNISH      17:NORWEGIAN  
18:DANISH      19:CHINESE      20:TAIWANESE  
21:SLOVAK      22:HEBREW

26-30

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set ON/OFF of the heater lamp slow-up control conforming to the CE mark control. |
| <b>Item</b>               | Specifications      Operation mode (Common)  |

#### Operation/procedure

Input the set value with the 10-key and press the [START] key.

This setup varies in connection with SIM 26-6 (Destination setup).

| Item |     | Default                            |        |
|------|-----|------------------------------------|--------|
|      |     | Japan, SEC, SECL, SCA, SEF, Taiwan | Others |
| 0    | OFF | 0                                  | 1      |
| 1    | ON  |                                    |        |

**SIMULATION 26-30**  
CE MARK CONTROL SETTING. SELECT 0-1, AND PRESS START.  
0:OFF      1:ON

26-35

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setup  |
| <b>Function (Purpose)</b> | Used to set whether the same continuous troubles are displayed as one trouble or the series of troubles with SIM 22-4 when the same troubles occur continuously. |
| <b>Item</b>               | Specifications   |

#### Operation/procedure

Enter the set value with 10-key, and press [START] key.

| Item | Content  | Default |
|------|--|---------|
| 0    | ONCE<br>When two or more troubles occur, only one is registered. | 0       |
| 1    | ANY<br>All the troubles occurred are registered.                 |         |

**SIMULATION 26-35**  
TROUBLE MEMORY MODE SETTING. SELECT 0-1, AND PRESS START.  
0:ONCE      1:ANY

26-36

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to set whether the machine is stopped or not when the maintenance counter life is expired. |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Input the set value with the 10-key and press the [START] key.

| Item | Content  | Default |
|------|----------|---------|
| 0    | STOP     | 1       |
| 1    | NON STOP |         |

Note: Executable only with SRU (AR models).

**SIMULATION 26-36**

MAINTENANCE COUNTER LIFE OVER SETTING. SELECT 0-1, AND PRESS START.

0:STOP

1:NON STOP

0

26-41

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set ON/OFF of the automatic magnification ratio selection (AMS) when setting the binding function. |
| <b>Item</b>               | Operation  |

**Operation/procedure**

Enter the set value with the 10-key, and press the [START] key.

| Item  | Content                       | Default |
|-------|-------------------------------|---------|
| 0 OFF | AMS is not set automatically. | 0       |
| 1 ON  | AMS is set automatically.     |         |

**SIMULATION 26-41**

PAMPHLET MODE AMS SETTING. SELECT 0-1, AND PRESS START.

0:OFF

1:ON

0

26-46

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set whether to meet with the output direction of images regardless of the mode when installing the finisher. |
| <b>Item</b>               | Operation  |

**Operation/procedure**

When this setting is made, the image output direction in the staple mode and that in the normal mode become the same. Therefore, the user who uses printed paper (logo, house style, etc) need not change the original direction in the staple mode. (When the finisher is used, images are rotated 180 degrees in the staple mode.)

Enter the set value with the 10-key, and press the [START] key.

| Item  | Content  | Default |
|-------|--|---------|
| 0 OFF | No setting (The output image direction is changed in the staple mode of the finisher.) | 0       |
| 1 ON  | Setting (The output image direction is the same regardless of stapling or not.)        |         |

Note: Executable only when the finisher is installed.

**SIMULATION 26-46**

OUT DIRECTION SETTING. SELECT 0-1, AND PRESS START.

0:OFF

1:ON

0

26-50

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to set ON/OFF of the black and white reversion function. |
| <b>Item</b>               | Operation   |

**Operation/procedure**

Enter the set value with the 10-key, and press the [START] key.

| Item  | Content | Default |
|-------|---------|---------|
| 0 ON  | Enable  | 0       |
| 1 OFF | Disable |         |

**SIMULATION 26-50**

B/W REVERSE SETTING. SELECT 0-1, AND PRESS START.

0:ON

1:OFF

0

26-57

|                           |                             |
|---------------------------|-----------------------------|
| <b>Purpose</b>            | Setting                     |
| <b>Function (Purpose)</b> | Used to set the model code. |
| <b>Item</b>               | Operation                   |

**Operation/procedure**

Input the set value with the 10-key and press the [START] key.

| Item       | Default |
|------------|---------|
| 1 AR-M236  | 1       |
| 2 AR-M276  |         |
| 3 AR-M237  |         |
| 4 AR-M277  |         |
| 5 AR-266S  |         |
| 6 AR-266G  |         |
| 7 AR-266FG |         |
| 8 AR-266FP |         |

**SIMULATION 26-57**

MACHINE CODE SETTING. SELECT 1-8, AND PRESS START.

1:AR-M236

2:AR-M276

3:AR-M237

4:AR-M277

5:AR-266S

6:AR-266G

7:AR-266FG

8:AR-266FP

1

26-60

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set enable/disable of the FAX mode key when FAX is not installed. (When FAX is installed, the FAX mode is enabled regardless of this setup.) |
| <b>Item</b>               | Operation  |

**Operation/procedure**

Input the set value with the 10-key and press the [START] key.

| Item  | Content  | Default                    |        |
|-------|--|----------------------------|--------|
|       |  | JAPAN, SEC, SECL, SUK, SCA | Others |
| 0 ON  | Effective (The message with FAX uninstalled is displayed.) | 0                          | 1      |
| 1 OFF | Disable (Error Beep)                                       |                            |        |

This setup varies in connection with SIM 26-6 (Destination setup).

**SIMULATION 26-60**

FAX KEY SETTING. SELECT 0-1, AND PRESS START KEY.

0:ON

1:OFF

0

26-71

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | In the power save time setting, the pre-heat (pre-heat mode setting) and the auto power shut off time can be set to the short time setup (pre-heat: 1 min, auto power shut off: 4 min) and the long time setup (pre-heat: 15min, auto power shut off: 60min). |

## Operation/procedure

Select the short time setup or the long time setup of the pre-heat time and the auto power shut off time with the 10-key, and press the [START] key.

| Item | Content                                    | Default |
|------|--|---------|
| 1    | Pre-heat: 1min, auto power shut off: 4min  | 2       |
| 2    | Preheat: 15min, auto power shut off: 60min |         |

Note: When the sub code 71 is entered to display the setting menu, the default values are always displayed. (However, the default time is not always set.)

### SIMULATION 26-71

ENERGY-SAVING SETTING. SELECT 1-2, AND PRESS START.  
1:SHORT  
2:LONG

2

27

27-1

|                           |  |                         |
|---------------------------|--|-------------------------|
| <b>Purpose</b>            | Setting  |                         |
| <b>Function (Purpose)</b> | Used to set PC/MODEM communication trouble (U7-00) detection Yes/No. |                         |
| <b>Section</b>            | Communication (RIC/MODEM)  |                         |
| <b>Item</b>               | Specifications   | Operation mode (Common) |

## Operation/procedure

Input the set value with the 10-key and press the [START] key.

| Item | Content | Default |
|------|---------|---------|
| 0    | OFF     | 0       |
| 1    | ON      |         |

### SIMULATION 27-1

DISABLING OF U7-00 TROUBLE. SELECT 0-1, AND PRESS START.  
0:OFF  
1:ON

0

27-5

|                           |                             |
|---------------------------|-----------------------------|
| <b>Purpose</b>            | Setting                     |
| <b>Function (Purpose)</b> | Used to set the tag number. |
| <b>Item</b>               | Data                        |

## Operation/procedure

1. The currently set number is displayed on the PRESENT column.
2. Enter the new tag number (Max. 8 digits) with the 10-key. The entered number is displayed on the NEW column.
3. Press the [START] key. The set value is stored and "PRESENT" is revised.

### SIMULATION 27-5

TAG# SETTING. INPUT VALUE, AND PRESS START.  
PRESENT :  
NEW : 12345678

30

30-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check                                       |
| <b>Function (Purpose)</b> | Used to display the sensor status attached to the machine. |
| <b>Section</b>            | Others   |
| <b>Item</b>               | Operation  |

## Operation/procedure

The active sensors and detectors are highlighted.

|       |  |
|-------|--|
| PPD1H | PS paper detection 1 sensor                      |
| PPD1L | PS paper detection 2 sensor                      |
| PPD2  | Fusing paper sensor                              |
| POD1  | 1st paper exit paper out sensor                  |
| DVCH  | Developing cartridge detection sensor            |
| DRST  | Drum initial detection sensor                    |
| DSWR1 | Interlock switch (side door)                     |
| SFTHP | Shifter home position sensor                     |
| POD2  | 2nd paper exit paper out sensor                  |
| TOPF  | 2nd paper exit full detection sensor             |
| DSWR0 | 2nd paper exit cover open/close detection sensor |
| LOEMP | 1st paper exit empty detection sensor            |
| DUP2  | Reverse path paper sensor                        |

### SIMULATION 30-1

SENSOR CHECK.  
PPD1H PPD1L PPD2 POD1 DVCH DRST DSWR1  
SFTHP POD2 TOPF DSWR0 LOEMP DUP2

30-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to display the status of the sensors attached to the standard cassette and the manual feed tray. (Use SIM 4-2 for the option cassettes.) The sensor of an uninstalled cassette is not displayed. |
| <b>Section</b>            | Paper feed  |
| <b>Item</b>               | Operation   |

## Operation/procedure

The active sensors and detectors are highlighted.

|       |   |
|-------|---|
| PED1  | 1st cassette paper empty sensor                 |
| LUD1  | 1st cassette paper upper limit detection sensor |
| CD1   | 1st cassette empty sensor                       |
| PED2  | 2nd cassette paper empty sensor                 |
| LUD2  | 2nd cassette paper upper limit detection sensor |
| CD2   | 2nd cassette empty sensor                       |
| PFD2  | 2nd cassette paper pass sensor                  |
| DSWR2 | 2nd cassette right door detection sensor        |
| MPED  | Manual tray paper empty detection               |
| MPLS1 | Manual tray length detection 1                  |
| MPLS2 | Manual tray length detection 2                  |
| MPLD1 | Manual feed paper length detection 1            |
| MPLD2 | Manual feed paper length detection 2            |

Width detection size of the manual feed tray (one of them is displayed.)  
A4/A3, LT/WLT, B5/B4, INV/LTR, A5/A4R, B5R, POSTCARD, EXTRA, 8K/16K

(At detection, highlighted)

### SIMULATION 30-2

TRAY SENSOR CHECK.  
PED1 LUD1 CD1 PED2 LUD2 CD2 PFD2  
DSWR2 MPED MPLS1 MPLS2 MPLD1 MPLD2 A3/A4  
LT/WLT B5/B4 INV/LTR A5/A4R B5R POSTCARD EXTRA  
8K/16K

40-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check                                      |
| <b>Function (Purpose)</b> | Used to check the sensor of the machine manual feed tray. |
| <b>Section</b>            | Paper feed  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

The active sensors and detectors are highlighted.

|       |                                      |
|-------|--------------------------------------|
| MPLS1 | Manual tray length detection 1       |
| MPLS2 | Manual tray length detection 2       |
| MPLD1 | Manual feed paper length detection 1 |
| MPLD2 | Manual feed paper length detection 2 |

Width detection size of the manual feed tray (one of them is displayed.)  
A4/A3, LT/WLT, B5/B4, INV/LTR, A5/A4R, B5R, POSTCARD, EXTRA, 8K/16K

**SIMULATION 40-1**

BYPASS TRAY SENSOR CHECK.

MPLS1 MPLS2 MPLD1 MPLD2 A3/A4 INV/LTR  
B5/B4 LT/WLT A5/A4R B5R POSTCARD EXTRA  
8K/16K

40-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the manual paper feed tray paper width detector detection level. |
| <b>Section</b>            | Paper feed  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

The adjustment method is of the 4-point system. Set the guide to Max. (A3/WLetter) position, A4R/Letter R position, A5R/Invoice R position, and Min. position for adjustment.

- 1) Set A3/W Letter and fit the guide, then press the [START] key.
- 2) Set A4R/LetterR and fit the guide, then press the [START] key.
- 3) Set to A5R/INVOICE R and fit the guide, then press the [START] key.
- 4) Narrow the guide at minimum, press the [START] key.
- 5) Set the paper detection width (+), and press the [START] key.
- 6) Set the paper detection width (–), and press the [START] key.

If "FAILED" is displayed in procedure 1), 2), 3), or 4), it is NG of adjustment. Repeat the adjustment.

|                              |     |               |
|------------------------------|-----|---------------|
| Middle position adjustment L | Yes | MID-L ADJ.ON  |
|                              | No  | MID-L ADJ.OFF |
| Middle position adjustment S | Yes | NID-S ADJ.ON  |
|                              | No  | MID-S ADJ.OFF |

AB series

Inch series

**SIMULATION 40-2**

BYPASS TRAY  
ADJUSTMENT.  
A3 PAPER SET, AND  
PRESS START KEY.

**SIMULATION 40-2**

BYPASS TRAY  
ADJUSTMENT.  
WLT PAPER SET, AND  
PRESS START KEY.

40-3

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | The AD conversion value of manual feed width detection is displayed. |
| <b>Section</b>            | Paper feed   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

The AD conversion value of manual feed width detection is displayed.

**SIMULATION 40-3**

BYPASS TRAY WIDTH DATA DISPLAY.

123

41-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check                                    |
| <b>Function (Purpose)</b> | Used to check the document size detection photo sensor. |
| <b>Section</b>            | Others  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

The operation status of the sensors and detectors in the original size detection section are displayed. The active sensors and detectors are highlighted.

|          |  |
|----------|--|
| OCSW     | Original cover state<br>Open: Highlighted display<br>Close: Normal display                       |
| PD1 to 5 | Original sensor status<br>Without original: Normal display<br>With original: Highlighted display |

For AB series, PD1 to 5 is displayed, for inch series, PD1 to 4.

**SIMULATION 41-1**

PD SENSOR CHECK.

OCSW PD1 PD2 PD3 PD4 PD5

41-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the detection level of the document size photo sensor. |
| <b>Section</b>            | Others  |
| <b>Item</b>               | Operation   |

**Operation/procedure**

Place an A3 (or WLT) document on the document table, and press [START] key with the OC cover open.

The adjustment is performed and the result is displayed.

|        |  |
|--------|--|
| OCSW   | Original cover state<br>Open: Highlighted display<br>Close: Normal display |
| 1 to 5 | PD sensor detection level (Hexadecimal display)                            |

The value in [ ] shows the threshold value. (Hexadecimal display)

For AB series, 1 to 5 is displayed, for inch series, 1 to 4.

During execution of the simulation, "EXECUTING" is displayed.

**SIMULATION 41-2**

PD SENSOR ADJUSTMENT. PRESS START.



41-3

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to check the light reception level and the detection level of the original size detection photo sensor. |
| <b>Section</b>            | Others   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

The detection output level of each sensor is displayed in real time.

|        |  |
|--------|--|
| OCSW   | Original cover state<br>Open: Highlighted display<br>Close: Normal display |
| 1 to 5 | PD sensor detection level (Hexadecimal display)                            |

The value in [ ] shows the threshold value of 20 degree detection adjustment. (Hexadecimal display)

For AB series, 1 to 5 is displayed, for inch series, 1 to 4.

**SIMULATION 41-3**  
PD SENSOR DATA DISPLAY.  
OCSW  
1[128]200    2[128]200    3[128]200  
4[128]200    5[128]200

41-4

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to adjust the detection level of OC 20 degrees. |
| <b>Section</b>            | Others   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

Set the OC cover at 20 degrees detection and press the [START] key.

The detection output level of each sensor is displayed in real time.

|        |  |
|--------|--|
| OCSW   | Original cover state<br>Open: Highlighted display<br>Close: Normal display |
| 1 to 5 | PD sensor detection level (Hexadecimal display)                            |

The value in [ ] shows the threshold value of 20 degree detection adjustment. (Hexadecimal display)

For AB series, 1 to 5 is displayed, for inch series, 1 to 4.

During execution, [EXEC] is highlighted.

**SIMULATION 41-4**  
OC 20 DEG SENSOR DATA ADJUSTMENT. PRESS START.

[START] key ON

**SIMULATION 41-4**  
OC 20 DEG SENSOR DATA ADJUSTMENT.  
OCSW  
1[080]0C8    2[080]0C8    3[080]0C8  
4[080]0C8    5[080]0C8

43

43-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to set the fusing temperature in 600dpi, 1200dpi, or postcard print. |
| <b>Section</b>            | Fixing (Fusing)   |
| <b>Item</b>               | Operation   |

**Operation/procedure**

1. Touch the item to be set.
2. Enter the set value with the 10-key.

|   | Item      | Content     | Setting range | Default   |
|---|-----------|-------------|---------------|---|
| 1 | 600dpi    | 600dpi      | 155-200       | 190 (Europe)/<br>175 (Japan, SEC,<br>SECL)/<br>185 (Others) |
| 2 | 1200dpi   | 1200dpi     | 140-200       | 165   |
| 3 | POST CARD | Postcard    | 155-200       | 190   |
| 4 | CARDBOARD | Thick paper | 155-200       | 190   |

**SIMULATION 43-1**  
FUSER TEMPERATURE SET. INPUT VALUE 155-200, AND PRESS START.  
1: 600dpi    185    185  
2: 1200dpi    165    1/1  
3: POST CARD    190    ↑  
4: CARDBOARD    190    ↓  
OK

43-10

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the paper feed cycle timing when printing postcards. |
| <b>Section</b>            | Paper feed   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

Input the set value with the 10-key and press the [START] key.

|               |      |
|---------------|------|
| Setting range | 1-99 |
| Default       | 50   |

**SIMULATION 43-10**  
POST CARD PICK UP CYCLE SETTING. INPUT VALUE 1-99, AND PRESS START.  
50

44

44-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to make various setups in each mode of process control. |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)  |
| <b>Item</b>               | Operation  |

**Operation/procedure**

Enter the set value with the 10-key, and press the [START] key.

|   | Item              | Content   | Default |
|---|-------------------|---|---------|
| 1 | ENVIRONMENT ADJ.  | Environmental correction Allow/Inhibit (0: Inhibit, 1: Allow) | 1       |
| 2 | DUPLEX PRINT ADJ. | Duplex print correction Allow/Inhibit (0: Inhibit, 1: Allow)  | 0       |

# **SIMULATION 44-1**

PROCESS CONTROL MODE SETTING. SELECT 1-2, AND PRESS START.

1:ENVIRONMENT ADJ.

1

1

2:DUPLEX PRINT ADJ.

0

44-34

| Purpose            | Setting  |
|--------------------|--|
| Function (Purpose) | Used to set the transfer current value in each mode. |

## **Operation/procedure**

1. Touch the item to be set.
2. Enter the set value with the 10-key.

To support an individual necessity in paper and the environment, it is variable in the range of 5 to 30uA in the increment of 1uA in each mode.

When changing +V2, check with +V1 unchanged. If there is any trouble in the half tone image of graphics, keep the relationship between +V1 and +V2 at the default and change it.

When the image quality is deteriorated because the user selects the OHP mode and use other than the recommended OHP, decrease the transfer current to adjust deterioration of black background picture quality. If some of characters are not printed, increase the transfer current.

This setting is changed in linkage with SIM 26-6 destination setting.

\*1: SECL/SCA/SEF/EX inch series/EX AB series/EX inch series (FC)/EX AB series (FC)/China/Taiwan/SEEG2

\*2: SEC/SEEG/SUK

| Item | Content           | Setting range   | Default |       |
|------|-------------------|---|---------|-------|
|      |                   |   | *1      | *2    |
| 1    | +V1F (600)        | 600dpi normal paper > B5R + V1 single surface. Duplex (Front) | 5-30    | 5 5   |
| 2    | +V1R (600)        | 600dpi normal paper > B5R + V1 Duplex (Back)                  | 5-30    | 5 5   |
| 3    | +V2F (600)        | 600dpi normal paper > B5R +V2 single surface. Duplex (Front)  | 5-30    | 18 20 |
| 4    | +V2R (600)        | 600dpi normal paper > B5R +V2 Duplex (Back)                   | 5-30    | 14 18 |
| 5    | +V1S-F (600)      | 600dpi normal paper ≤ B5R +V1 single surface. Duplex (Front)  | 5-30    | 5 5   |
| 6    | +V1S-R (600)      | 600dpi normal paper ≤ B5R +V1 Duplex (Back)                   | 5-30    | 5 5   |
| 7    | +V2S-F (600)      | 600dpi normal paper ≤ B5R +V2 single surface. Duplex (Front)  | 5-30    | 22 22 |
| 8    | +V2S-R (600)      | 600dpi normal paper ≤ B5R +V2 Duplex (Back)                   | 5-30    | 18 18 |
| 9    | +V1 THICK (600)   | 600dpi thick paper > LTR +V1                                  | 5-30    | 5 5   |
| 10   | +V2 THICK (600)   | 600dpi thick paper > LTR +V2                                  | 5-30    | 14 14 |
| 11   | +V1 THICK S (600) | 600dpi thick paper ≤ LTR +V1                                  | 5-30    | 5 5   |
| 12   | +V2 THICK S (600) | 600dpi thick paper ≤ LTR +V2                                  | 5-30    | 18 18 |
| 13   | +V1 THIN (600)    | 600dpi thin paper > LTR +V1                                   | 5-30    | 5 5   |
| 14   | +V2 THIN (600)    | 600dpi thin paper > LTR +V2                                   | 5-30    | 18 18 |
| 15   | +V1 THIN S (600)  | 600dpi thin paper ≤ LTR +V1                                   | 5-30    | 5 5   |

| Item | Content              | Setting range   | Default |       |
|------|----------------------|---|---------|-------|
|      |                      |   | *1      | *2    |
| 16   | +V2 THIN S (600)     | 600dpi thin paper ≤ LTR +V2                                   | 5-30    | 18 18 |
| 17   | +V1 LABEL (600)      | 600dpi label paper > LTR +V1                                  | 5-30    | 5 5   |
| 18   | +V2 LABEL (600)      | 600dpi label paper > LTR +V2                                  | 5-30    | 18 18 |
| 19   | +V1 LABEL S (600)    | 600dpi label paper ≤ LTR +V1                                  | 5-30    | 5 5   |
| 20   | +V2 LABEL S (600)    | 600dpi label paper ≤ LTR +V2                                  | 5-30    | 18 18 |
| 21   | +V1 OHP (600)        | 600dpi OHP > LTR +V1  | 5-30    | 5 5   |
| 22   | +V2 OHP (600)        | 600dpi OHP > LTR +V2  | 5-30    | 14 14 |
| 23   | +V1 OHP S (600)      | 600dpi OHP ≤ LTR +V1  | 5-30    | 5 5   |
| 24   | +V2 OHP S (600)      | 600dpi OHP ≤ LTR +V2  | 5-30    | 18 18 |
| 25   | +V1 POSTCARD (600)   | 600dpi postcard/envelope > 100mm +V1                          | 5-30    | 5 5   |
| 26   | +V2 POSTCARD (600)   | 600dpi postcard/envelope > 100mm +V2                          | 5-30    | 26 26 |
| 27   | +V1 POSTCARD S (600) | 600dpi postcard/envelope ≤ 100mm +V1                          | 5-30    | 5 5   |
| 28   | +V2 POSTCARD S (600) | 600dpi postcard/envelope ≤ 100mm +V2                          | 5-30    | 26 26 |
| 29   | +V1F (1200)          | 1200dpi normal paper > B5R +V1 single surface. Duplex (Front) | 5-30    | 5 5   |
| 30   | +V1R (1200)          | 1200dpi normal paper > B5R +V1 Duplex (Back)                  | 5-30    | 5 5   |
| 31   | +V2F (1200)          | 1200dpi normal paper > B5R +V2 single surface. Duplex (Front) | 5-30    | 12 14 |
| 32   | +V2R (1200)          | 1200dpi normal paper > B5R +V2 Duplex (Back)                  | 5-30    | 10 10 |
| 33   | +V1S-F (1200)        | 1200dpi normal paper ≤ B5R +V1 single surface. Duplex (Front) | 5-30    | 5 5   |
| 34   | +V1S-R (1200)        | 1200dpi normal paper ≤ B5R +V1 Duplex (Back)                  | 5-30    | 5 5   |
| 35   | +V2S-F (1200)        | 1200dpi normal paper ≤ B5R +V2 single surface. Duplex (Front) | 5-30    | 14 14 |
| 36   | +V2S-R (1200)        | 1200dpi normal paper ≤ B5R +V2 Duplex (Back)                  | 5-30    | 12 12 |
| 37   | +V1 THICK (1200)     | 1200dpi thick paper > LTR +V1                                 | 5-30    | 5 5   |
| 38   | +V2 THICK (1200)     | 1200dpi thick paper > LTR +V2                                 | 5-30    | 10 10 |
| 39   | +V1 THICK S (1200)   | 1200dpi thick paper ≤ LTR +V1                                 | 5-30    | 5 5   |
| 40   | +V2 THICK S (1200)   | 1200dpi thick paper ≤ LTR +V2                                 | 5-30    | 12 12 |
| 41   | +V1 THIN (1200)      | 1200dpi thin paper > LTR +V1                                  | 5-30    | 5 5   |
| 42   | +V2 THIN (1200)      | 1200dpi thin paper > LTR +V2                                  | 5-30    | 12 12 |
| 43   | +V1 THIN S (1200)    | 1200dpi thin paper ≤ LTR +V1                                  | 5-30    | 5 5   |
| 44   | +V2 THIN S (1200)    | 1200dpi thin paper ≤ LTR +V2                                  | 5-30    | 12 12 |
| 45   | +V1 LABEL (1200)     | 1200dpi label paper > LTR +V1                                 | 5-30    | 5 5   |
| 46   | +V2 LABEL (1200)     | 1200dpi label paper > LTR +V2                                 | 5-30    | 12 12 |
| 47   | +V1 LABEL S (1200)   | 1200dpi label paper ≤ LTR +V1                                 | 5-30    | 5 5   |
| 48   | +V2 LABEL S (1200)   | 1200dpi label paper ≤ LTR +V2                                 | 5-30    | 12 12 |

| Item | Content               | Setting range                         | Default |       |
|------|-----------------------|---------------------------------------|---------|-------|
|      |                       |                                       | *1      | *2    |
| 49   | +V1 OHP (1200)        | 1200dpi OHP > LTR +V1                 | 5-30    | 5 5   |
| 50   | +V2 OHP (1200)        | 1200dpi OHP > LTR +V2                 | 5-30    | 8 8   |
| 51   | +V1 OHP S (1200)      | 1200dpi OHP ≤ LTR +V1                 | 5-30    | 5 5   |
| 52   | +V2 OHP S (1200)      | 1200dpi OHP ≤ LTR +V2                 | 5-30    | 12 12 |
| 53   | +V1 POSTCARD (1200)   | 1200dpi postcard/envelope > 100mm +V1 | 5-30    | 5 5   |
| 54   | +V2 POSTCARD (1200)   | 1200dpi postcard/envelope > 100mm +V2 | 5-30    | 16 16 |
| 55   | +V1 POSTCARD S (1200) | 1200dpi postcard/envelope ≤ 100mm +V1 | 5-30    | 5 5   |
| 56   | +V2 POSTCARD S (1200) | 1200dpi postcard/envelope ≤ 100mm +V2 | 5-30    | 16 16 |

#### SIMULATION 44-34

TC VALUE SETTING. INPUT VALUE 5-30, AND PRESS START.

|                      |    |                      |    |     |
|----------------------|----|----------------------|----|-----|
| 1: +V1 F (600)       | 5  | 2: +V1 R (600)       | 5  | 5   |
| 3: +V2 F (600)       | 18 | 4: +V2 R(600)        | 14 |     |
| 5: +V1 S-F(600)      | 5  | 6: +V1 S-R(600)      | 5  | 1/4 |
| 7: +V2 S-F(600)      | 22 | 8: +V2 S-R(600)      | 18 | ↑   |
| 9: +V1 THICK(600)    | 5  | 10: +V2 THICK(600)   | 14 |     |
| 11: +V1 THICK S(600) | 5  | 12: +V2 THICK S(600) | 18 | ↓   |
| 13: +V1 THIN(600)    | 5  | 14: +V2 THIN(600)    | 18 | OK  |

44-35

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the DV-Bias/Grid environment (low temperature) correction temperature. |

#### Operation/procedure

Enter the set value with the 10-key, and press the [START] key.

Correction is performed when the temperature sensor installed to the MCU indicates 15°C or below.

The content of correction is to raise the DVB-Bias and Grid by -50V.

The simulation allows to vary the correction threshold value in the range of 0 to 20°C.

If, however, the set temperature is increased, correction at a high voltage is performed in normal temperatures.

|               |      |
|---------------|------|
| Setting range | 0-20 |
| Default       | 15°C |

#### SIMULATION 44-35

DVB/GRID ENVIRONMENT TEMPERATURE SETTING. INPUT VALUE 0-20, AND PRESS START.

15

44-40

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the time from the start of the main motor rotation (Ready) to the start of toner supply in previous rotation after turning on the power. |

#### Operation/procedure

Enter the set value with the 10-key, and press the [START] key.

Set the toner supply previous rotation time.

|               |            |
|---------------|------------|
| Setting range | 1-99 (sec) |
| Default       | 4 (sec)    |

#### SIMULATION 44-40

TONER ROTATE TIME SETTING. INPUT VALUE 1- 99, AND PRESS START.

4

46

46-2

|                           |   |         |
|---------------------------|---|---------|
| <b>Purpose</b>            | Adjustment  |         |
| <b>Function (Purpose)</b> | Used to set the exposure level in each exposure mode. |         |
| <b>Item</b>               | Picture quality                                       | Density |

#### Operation/procedure

1. Touch the item to be adjusted. (Automatic adjustment)  
The currently set value is highlighted beside the adjustment item.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density.  
Use the 10-key to set the exposure level.
4. Press the [START] key.  
Copying is started.

(Exposure mode)

| Item             | Content                        | Setting range | Default |
|------------------|--------------------------------|---------------|---------|
| 1 AE             | AE                             | 1-99          | 50      |
| 2 TEXT           | Character Level 3.0            |               |         |
| 3 TEXT/PHOTO     | Character/Photo Level 3.0      |               |         |
| 4 PHOTO          | Photo Level 3.0                |               |         |
| 5 SUPER PHOTO    | Super photo Level 3.0          |               |         |
| 6 AE(TS)         | AE (TS)                        |               |         |
| 7 TEXT(TS)       | Character (TS) Level 3.0       |               |         |
| 8 TEXT/PHOTO(TS) | Character/Photo (TS) Level 3.0 |               |         |

\* Except for AE and AE (TS), only Level 3 can be set.

Note: When this simulation is canceled, the display returns to the initial menu but the machine is not reset.

#### SIMULATION 46-2

EXP. LEVEL SETUP. INPUT VALUE 1-99, AND PRESS START.

|                |    |                   |    |     |
|----------------|----|-------------------|----|-----|
| 1: AE          | 50 | 2: TEXT           | 50 | 50  |
| 3: TEXT/PHOTO  | 55 | 4: PHOTO          | 50 |     |
| 5: SUPER PHOTO | 50 | 6: AE(TS)         | 50 | 1/1 |
| 7: TEXT(TS)    | 50 | 8: TEXT/PHOTO(TS) | 50 | ↑   |
|                |    |                   |    | ↓   |
|                |    |                   |    | OK  |

46-7

|                           |   |         |
|---------------------------|---|---------|
| <b>Purpose</b>            | Adjustment  |         |
| <b>Function (Purpose)</b> | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Super Photo). |         |
| <b>Item</b>               | Picture quality   | Density |

#### Operation/procedure

1. Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density.  
Use the 10-key to set the exposure level.
4. Press the [START] key.  
Copying is started.

(Exposure mode (Super Photo))

| Item          | Content                            | Setting range | Default |
|---------------|------------------------------------|---------------|---------|
| 1 1.0(SHIFT)  | Super photo level 1.0 (shift q'ty) | 1-99          | 32      |
| 2 1.0(GAMMA)  | Super photo level 1.0 (slant)      | 1-99          | 50      |
| 3 2.0(SHIFT)  | Super photo level 2.0 (shift q'ty) | 1-99          | 41      |
| 4 2.0(GAMMA)  | Super photo level 2.0 (slant)      | 1-99          | 50      |
| 5 3.0(SHIFT)  | Super photo level 3.0 (shift q'ty) | 1-99          | 50      |
| 6 3.0(GAMMA)  | Super photo level 3.0 (slant)      | 1-99          | 50      |
| 7 4.0(SHIFT)  | Super photo level 4.0 (shift q'ty) | 1-99          | 56      |
| 8 4.0(GAMMA)  | Super photo level 4.0 (slant)      | 1-99          | 61      |
| 9 5.0(SHIFT)  | Super photo level 5.0 (shift q'ty) | 1-99          | 62      |
| 10 5.0(GAMMA) | Super photo level 5.0 (slant)      | 1-99          | 66      |

Note: When this simulation is canceled, the display returns to the initial menu but the machine is not reset.

SIMULATION 46-7  
EXP. LEVEL SETUP(SUPER PHOTO). INPUT VALUE 1-99, AND PRESS START.  
1: 1.0(SHIFT) 32 2: 1.0(GAMMA) 50 32  
3: 2.0(SHIFT) 41 4: 2.0(GAMMA) 50 1/1  
5: 3.0(SHIFT) 50 6: 3.0(GAMMA) 50  
7: 4.0(SHIFT) 56 8: 4.0(GAMMA) 61  
9: 5.0(SHIFT) 62 10: 5.0(GAMMA) 66  
OK

46-9

| Purpose            | Adjustment   |
|--------------------|--|
| Function (Purpose) | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Text). |
| Item               | Picture quality Density  |

**Operation/procedure**

- Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
- Press the [START] key.  
The display is shifted to the copy menu.
- Select the paper feed tray and the print density.  
Use the 10-key to set the exposure level.
- Press the [START] key.  
Copying is started.

(Exposure mode (Text))

| Item              | Content                               | Setting range | Default |
|-------------------|---------------------------------------|---------------|---------|
| 1 1.0 (SHIFT)     | Character level 1.0 (shift q'ty)      | 1-99          | 22      |
| 2 1.0 (GAMMA)     | Character level 1.0 (slant)           | 1-99          | 44      |
| 3 2.0 (SHIFT)     | Character level 2.0 (shift q'ty)      | 1-99          | 36      |
| 4 2.0 (GAMMA)     | Character level 2.0 (slant)           | 1-99          | 47      |
| 5 3.0 (SHIFT)     | Character level 3.0 (shift q'ty)      | 1-99          | 50      |
| 6 3.0 (GAMMA)     | Character level 3.0 (slant)           | 1-99          | 50      |
| 7 4.0 (SHIFT)     | Character level 4.0 (shift q'ty)      | 1-99          | 61      |
| 8 4.0 (GAMMA)     | Character level 4.0 (slant)           | 1-99          | 55      |
| 9 5.0 (SHIFT)     | Character level 5.0 (shift q'ty)      | 1-99          | 72      |
| 10 5.0 (GAMMA)    | Character level 5.0 (slant)           | 1-99          | 60      |
| 11 TS 1.0 (SHIFT) | Character (TS) level 1.0 (shift q'ty) | 1-99          | 22      |
| 12 TS 1.0 (GAMMA) | Character (TS) level 1.0 (slant)      | 1-99          | 44      |
| 13 TS 2.0 (SHIFT) | Character (TS) level 2.0 (shift q'ty) | 1-99          | 36      |

| Item              | Content                               | Setting range | Default |
|-------------------|---------------------------------------|---------------|---------|
| 14 TS 2.0 (GAMMA) | Character (TS) level 2.0 (slant)      | 1-99          | 47      |
| 15 TS 3.0 (SHIFT) | Character (TS) level 3.0 (shift q'ty) | 1-99          | 50      |
| 16 TS 3.0 (GAMMA) | Character (TS) level 3.0 (slant)      | 1-99          | 50      |
| 17 TS 4.0(SHIFT)  | Character (TS) level 4.0 (shift q'ty) | 1-99          | 61      |
| 18 TS 4.0 (GAMMA) | Character (TS) level 4.0 (slant)      | 1-99          | 55      |
| 19 TS 5.0 (SHIFT) | Character (TS) level 5.0 (shift q'ty) | 1-99          | 72      |
| 20 TS 5.0 (GAMMA) | Character (TS) level 5.0 (slant)      | 1-99          | 60      |

Note: When this simulation is canceled, the display returns to the initial menu but the machine is not reset.

SIMULATION 46-9  
EXP. LEVEL SETUP(TEXT). INPUT VALUE 1-99, AND PRESS START.  
1: 1.0(SHIFT) 22 2: 1.0(GAMMA) 44 22  
3: 2.0(SHIFT) 36 4: 2.0(GAMMA) 47  
5: 3.0(SHIFT) 50 6: 3.0(GAMMA) 50 1/2  
7: 4.0(SHIFT) 61 8: 4.0(GAMMA) 55  
9: 5.0(SHIFT) 72 10: 5.0(GAMMA) 60  
11: TS 1.0(SHIFT) 22 12: TS 1.0(GAMMA) 44  
13: TS 2.0(SHIFT) 36 14: TS 2.0(GAMMA) 47  
OK

46-10

| Purpose            | Adjustment   |
|--------------------|--|
| Function (Purpose) | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Text/Photo). |
| Item               | Picture quality  |

**Operation/procedure**

- Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
- Press the [START] key.  
The display is shifted to the copy menu.
- Select the paper feed tray and the print density.  
Use the 10-key to set the exposure level.
- Press the [START] key.  
Copying is started.

(Exposure mode (Text/Photo))

| Item          | Content                                | Setting range | Default |
|---------------|--|---------------|---------|
| 1 1.0 (SHIFT) | Character/Photo level 1.0 (shift q'ty) | 1-99          | 30      |
| 2 1.0 (GAMMA) | Character/Photo level 1.0 (slant)      | 1-99          | 37      |
| 3 2.0 (SHIFT) | Character/Photo level 2.0 (shift q'ty) | 1-99          | 40      |
| 4 2.0 (GAMMA) | Character/Photo level 2.0 (slant)      | 1-99          | 43      |
| 5 3.0 (SHIFT) | Character/Photo level 3.0 (shift q'ty) | 1-99          | 50      |
| 6 3.0 (GAMMA) | Character/Photo level 3.0 (slant)      | 1-99          | 50      |
| 7 4.0 (SHIFT) | Character/Photo level 4.0 (shift q'ty) | 1-99          | 57      |
| 8 4.0 (GAMMA) | Character/Photo level 4.0 (slant)      | 1-99          | 61      |
| 9 5.0 (SHIFT) | Character/Photo level 5.0 (shift q'ty) | 1-99          | 64      |

| Item |                | Content                                     | Setting range | Default |
|------|----------------|---|---------------|---------|
| 10   | 5.0 (GAMMA)    | Character/Photo level 5.0 (slant)           | 1-99          | 66      |
| 11   | TS 1.0 (SHIFT) | Character/Photo (TS) level 1.0 (shift q'ty) | 1-99          | 30      |
| 12   | TS 1.0 (GAMMA) | Character/Photo (TS) level 1.0 (slant)      | 1-99          | 37      |
| 13   | TS 2.0 (SHIFT) | Character/Photo (TS) level 2.0 (shift q'ty) | 1-99          | 40      |
| 14   | TS 2.0 (GAMMA) | Character/Photo (TS) level 2.0 (slant)      | 1-99          | 43      |
| 15   | TS 3.0 (SHIFT) | Character/Photo (TS) level 3.0 (shift q'ty) | 1-99          | 50      |
| 16   | TS 3.0 (GAMMA) | Character/Photo (TS) level 3.0 (slant)      | 1-99          | 50      |
| 17   | TS 4.0 (SHIFT) | Character/Photo (TS) level 4.0 (shift q'ty) | 1-99          | 57      |
| 18   | TS 4.0 (GAMMA) | Character/Photo (TS) level 4.0 (slant)      | 1-99          | 61      |
| 19   | TS 5.0 (SHIFT) | Character/Photo (TS) level 5.0 (shift q'ty) | 1-99          | 64      |
| 20   | TS 5.0 (GAMMA) | Character/Photo (TS) level 5.0 (slant)      | 1-99          | 66      |

Note: When this simulation is canceled, the display returns to the initial menu but the machine is not reset.

SIMULATION 46-10

EXP. LEVEL SETUP(TEXT/PHOTO). INPUT VALUE 1-99, AND PRESS START.

|                   |    |                   |    |     |
|-------------------|----|-------------------|----|-----|
| 1: 1.0(SHIFT)     | 30 | 2: 1.0(GAMMA)     | 37 | 30  |
| 3: 2.0(SHIFT)     | 40 | 4: 2.0(GAMMA)     | 43 | 1/2 |
| 5: 3.0(SHIFT)     | 50 | 6: 3.0(GAMMA)     | 50 | ↑   |
| 7: 4.0(SHIFT)     | 57 | 8: 4.0(GAMMA)     | 61 |     |
| 9: 5.0(SHIFT)     | 64 | 10: 5.0(GAMMA)    | 66 | ↓   |
| 11: TS 1.0(SHIFT) | 30 | 12: TS 1.0(GAMMA) | 37 | OK  |
| 13: TS 2.0(SHIFT) | 40 | 14: TS 2.0(GAMMA) | 43 |     |

46-11

|                           |   |         |
|---------------------------|---|---------|
| <b>Purpose</b>            | Adjustment  |         |
| <b>Function (Purpose)</b> | Used to adjust the shift amount and the inclination value for each level (1 to 5) of the exposure mode (Photo). |         |
| <b>Item</b>               | Picture quality   | Density |

#### Operation/procedure

- Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
- Press the [START] key.  
The display is shifted to the copy menu.
- Select the paper feed tray and the print density.  
Use the 10-key to set the exposure level.
- Press the [START] key.  
Copying is started.

(Exposure mode (Photo))

| Item | Content    | Setting range | Default |
|------|------------|---------------|---------|
| 1    | 1.0(SHIFT) | 1-99          | 32      |
| 2    | 1.0(GAMMA) |               | 50      |
| 3    | 2.0(SHIFT) |               | 41      |
| 4    | 2.0(GAMMA) |               | 50      |
| 5    | 3.0(SHIFT) |               | 50      |
| 6    | 3.0(GAMMA) |               | 50      |
| 7    | 4.0(SHIFT) |               | 56      |
| 8    | 4.0(GAMMA) |               | 61      |
| 9    | 5.0(SHIFT) |               | 62      |
| 10   | 5.0(GAMMA) |               | 66      |

Note: When this simulation is canceled, the display returns to the initial menu but the machine is not reset.

SIMULATION 46-11

EXP. LEVEL SETUP(PHOTO). INPUT VALUE 1-99, AND PRESS START.

|               |    |                |    |     |
|---------------|----|----------------|----|-----|
| 1: 1.0(SHIFT) | 32 | 2: 1.0(GAMMA)  | 50 | 32  |
| 3: 2.0(SHIFT) | 41 | 4: 2.0(GAMMA)  | 50 | 1/1 |
| 5: 3.0(SHIFT) | 50 | 6: 3.0(GAMMA)  | 50 | ↑   |
| 7: 4.0(SHIFT) | 56 | 8: 4.0(GAMMA)  | 61 |     |
| 9: 5.0(SHIFT) | 62 | 10: 5.0(GAMMA) | 66 | ↓   |
|               |    |                |    | OK  |

46-12

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | FAX exposure level adjustment (1 mode automatic adjustment) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Image quality   |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is displayed beside the item.
- Enter the set value of the exposure level with the 10-key, and press the [#P] key.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

| Item |               | Setting range | Default |
|------|---------------|---------------|---------|
| 1    | COPY START    | —             | —       |
| 2    | FAX EXP.LEVEL | 0-99          | 50      |

Note: Executable only when the FAX is installed.

SIMULATION 46-12

EXP. LEVEL SETUP FAX(AUTO SET). SELECT 1-2, AND PRESS START.

1

|                   |    |
|-------------------|----|
| 1. COPY START     |    |
| 2. FAX EXP. LEVEL | 50 |

46-13

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | FAX exposure level adjustment (Normal mode individual adjustment) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Image quality   |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is displayed beside the item.
- Enter the set value of the exposure level with the 10-key, and press the [#P] key.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

| Item | Content    | Setting range            | Default |
|------|------------|--------------------------|---------|
| 1    | COPY START | Copy start               | —       |
| 2    | EXP.LEVEL  | Exposure level selection | 0-99    |
| 3    | AE         | Normal text AE           |         |
| 4    | MANUAL     | Normal text MANUAL       |         |

Note: Executable only when the FAX is installed.

|   |    |
|---|----|
| SIMULATION 46-13  |    |
| EXP. LEVEL SETUP FAX (NORMAL). SELECT 1-4, AND PRESS START. |    |
| 1. COPY START   |    |
| 2. EXP. LEVEL   | 3  |
| 3. AE   | 50 |
| 4. MANUAL   | 50 |

|                           |  |
|---------------------------|--|
| 46-14                     |  |
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | FAX exposure level adjustment (Fine text mode individual adjustment) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Image quality  |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is displayed beside the item.
- Enter the set value of the exposure level with the 10-key, and press the [#P] key.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

| Item | Content            | Setting range                | Default |
|------|--------------------|------------------------------|---------|
| 1    | COPY START         | Copy start                   | —       |
| 2    | EXP.LEVEL          | Exposure level selection     | 0-99    |
| 3    | AE (PHOTO ON)      | Fine text AE (Half tone)     |         |
| 4    | AE (PHOTO OFF)     | Fine text AE                 |         |
| 5    | MANUAL (PHOTO ON)  | Fine text MANUAL (Half tone) |         |
| 6    | MANUAL (PHOTO OFF) | Fine text MANUAL             |         |

Note: Executable only when the FAX is installed.

|   |    |
|---|----|
| SIMULATION 46-14  |    |
| EXP. LEVEL SETUP FAX (FINE). SELECT 1-6, AND PRESS START. |    |
| 1. COPY START   |    |
| 2. EXP. LEVEL   | 3  |
| 3. AE (PHOTO ON)  | 50 |
| 4. AE (PHOTO OFF)   | 50 |
| 5. MANUAL (PHOTO ON)                                      | 50 |
| 6. MANUAL (PHOTO OFF)                                     | 50 |

|                           |   |
|---------------------------|---|
| 46-15                     |   |
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | FAX exposure level adjustment (Super Fine mode individual adjustment) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Image quality   |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is displayed beside the item.

- Enter the set value of the exposure level with the 10-key, and press the [#P] key.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

| Item | Content            | Setting range                 | Default |
|------|--------------------|-------------------------------|---------|
| 1    | COPY START         | Copy start                    | —       |
| 2    | EXP.LEVEL          | Exposure level selection      | 0 - 99  |
| 3    | AE (PHOTO ON)      | Super Fine AE (Half tone)     |         |
| 4    | AE (PHOTO OFF)     | Super Fine AE                 |         |
| 5    | MANUAL (PHOTO ON)  | Super Fine MANUAL (Half tone) |         |
| 6    | MANUAL (PHOTO OFF) | Super Fine MANUAL             |         |

Note: Executable only when the FAX is installed.

|   |    |
|---|----|
| SIMULATION 46-15  |    |
| EXP. LEVEL SETUP FAX (SUPER FINE). SELECT 1-6, AND PRESS START. |    |
| 1. COPY START   |    |
| 2. EXP. LEVEL   | 3  |
| 3. AE (PHOTO ON)  | 50 |
| 4. AE (PHOTO OFF)   | 50 |
| 5. MANUAL (PHOTO ON)  | 50 |
| 6. MANUAL (PHOTO OFF)   | 50 |

|                           |   |
|---------------------------|---|
| 46-16                     |   |
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | FAX exposure level adjustment (Ultra Fine mode individual adjustment) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Image quality   |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is displayed beside the item.
- Enter the set value of the exposure level with the 10-key, and press the [#P] key.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

| Item | Content            | Setting range                 | Default |
|------|--------------------|-------------------------------|---------|
| 1    | COPY START         | Copy start                    | —       |
| 2    | EXP.LEVEL          | Exposure level selection      | 0 - 99  |
| 3    | AE (PHOTO ON)      | Ultra Fine AE (Half tone)     |         |
| 4    | AE (PHOTO OFF)     | Ultra Fine AE                 |         |
| 5    | MANUAL (PHOTO ON)  | Ultra Fine MANUAL (Half tone) |         |
| 6    | MANUAL (PHOTO OFF) | Ultra Fine MANUAL             |         |

Note: Executable only when the FAX is installed.

# SIMULATION 46-16

EXP. LEVEL SETUP FAX (ULTRA FINE). SELECT 1-6, AND PRESS START.

1. COPY START
2. EXP. LEVEL : 3
3. AE (PHOTO ON) : 50
4. AE (PHOTO OFF) : 50
5. MANUAL (PHOTO ON) : 50
6. MANUAL (PHOTO OFF) : 50

1

46-18

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to adjust inclination for each exposure mode. |
| <b>Item</b>               | Picture quality                                    |

## Operation/procedure

1. Touch the item to be adjusted.  
The adjustment item and the current set value are highlighted.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density.  
Set the exposure level with the 10-key.
4. Press the [START] key.  
Copying is started.

(Auto adjustment)

| Item             | Content                        | Setting range | Default |
|------------------|--------------------------------|---------------|---------|
| 1 AE             | AE                             | 1-99          | 50      |
| 2 TEXT           | Character Level 3.0            |               |         |
| 3 TEXT/PHOTO     | Character/Photo Level 3.0      |               |         |
| 4 PHOTO          | Photo Level 3.0                |               |         |
| 5 SUPER PHOTO    | Super photo Level 3.0          |               |         |
| 6 AE(TS)         | AE(TS)                         |               |         |
| 7 TEXT(TS)       | Character (TS) Level 3.0       |               |         |
| 8 TEXT/PHOTO(TS) | Character/Photo (TS) Level 3.0 |               |         |

Note: When this simulation is canceled, the display returns to the initial menu but the machine is not reset.

# SIMULATION 46-18

GAMMA SETUP. INPUT VALUE 1-99, AND PRESS START.

- 1: AE 50
- 2: TEXT 50
- 3: TEXT/PHOTO 50
- 4: PHOTO 50
- 5: SUPER PHOTO 50
- 6: AE(TS) 50
- 7: TEXT(TS) 50
- 8: TEXT/PHOTO(TS) 50

1

↓

OK

46-19

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to set the control method of the exposure mode. |
| <b>Item</b>               | Picture quality                                      |

## Operation/procedure

1. Touch the item to be adjusted.  
The currently set value is highlighted beside the adjustment item.
2. Press the [START] key.  
The display is shifted to the adjustment value entry menu.
3. Enter the adjustment value with the 10-key, and press the [START] key.

When the [CUSTOM SETTINGS] key is pressed, the display returns to the original state (adjustment item selection menu).

| Item  | Content  | Default |
|---|--|---------|
| 1 AE MODE<br>(1:EXPOSURE<br>2:TONER)        | Auto exposure mode*<br>(1: Priority on Image quality,<br>2: Priority on toner consumption) | 2       |
| 2 AE STOP(COPY)<br>(0:FIXED<br>1:REAL TIME) | Auto exposure STOP mode<br>(COPY)<br>(0: Fixed, 1: Real-time)                              | 0       |
| 3 AE STOP(FAX)<br>(0:FIXED<br>1:REAL TIME)  | Auto exposure STOP mode (FAX)<br>(0: Fixed, 1: Real-time)                                  | 0       |
| 4 AE STOP(SCAN)<br>(0:FIXED<br>1:REAL TIME) | Auto exposure STOP mode<br>(SCANNER)<br>(0: Fixed, 1: Real-time)                           | 0       |

\* Auto exposure mode

- When SIM 26-6 (Destination setup) is changed from EX Japan to Japan, the setup value becomes 1 (Default: Japan). If, on the contrary, it is changed from Japan to EX Japan, the set value becomes 2 (Default: EX Japan)
- If the auto exposure mode setup value is changed, the setup value of SIM 46-30 (AE limit setup) is reset to the default value.

# SIMULATION 46-19

EXP. MODE SETUP. SELECT 1-4, AND PRESS START.

- 1:AE MODE 1
- 2:AE STOP(COPY) 0
- 3:AE STOP(FAX) 0
- 4:AE STOP(SCAN) 0

1

46-20

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to set the exposure correction value of SPF/ RSPF for OC exposure. |
| <b>Item</b>               | Picture quality   |

## Operation/procedure

1. Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
2. Enter the set value with the 10-key.

| Item            | Content | Setting range | Default |
|-----------------|---------|---------------|---------|
| 1 SPF EXPOSURE  | SPF     | 1-99          | 53      |
| 2 RSPF EXPOSURE | RSPF    |               |         |

# SIMULATION 46-20

SPF EXP. ADJUSTMENT. SELECT 1-99, AND PRESS START.

- 1: SPF EXPOSURE 53
- 2: RSPF EXPOSURE 53

53

1/1

↑

↓

OK

46-30

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the AE and the limit value in AE (Toner save). |

## Operation/procedure

1. Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
2. Enter the set value with the 10-key.

If SIM 26-6 (Destination setup) and SIM46-19 (Auto exposure mode) are changed, this setup is also changed to the default value accordingly.

| Item     | Setting range | Default |
|----------|---------------|---------|
| 1 AE     | 0-31          | 0       |
| 2 AE(TS) |               |         |

**SIMULATION 46-30**  
AE LIMIT SETTING. INPUT VALUE 0-31, AND PRESS START.

|           |   |   |
|-----------|---|---|
| 1: AE     | 0 | 0 |
| 2: AE(TS) | 0 |   |

1/1

↑

↓

OK

46-31

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the AE and the limit value in AE (Toner save). |

#### Operation/procedure

1. Touch the item to be adjusted.  
The adjustment item and the currently set value are highlighted.
2. Enter the set value with the 10-key.

| Item          | Setting range | Default |
|---------------|---------------|---------|
| 1 AE          | 0 - 2         | 1       |
| 2 TEXT        |               |         |
| 3 TEXT/PHOTO  |               |         |
| 4 PHOTO       |               |         |
| 5 SUPER PHOTO |               |         |

**SIMULATION 46-31**  
SHARPNESS SETTING. INPUT VALUE 0-2, AND PRESS START.

|                |   |   |
|----------------|---|---|
| 1: AE          | 1 | 1 |
| 2: TEXT        | 1 |   |
| 3: TEXT/PHOTO  | 1 |   |
| 4: PHOTO       | 1 |   |
| 5: SUPER PHOTO | 1 |   |

1/1

↑

↓

OK

46-39

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting                                    |
| <b>Function (Purpose)</b> | Used to switch the FAX send image quality. |

Enter the set value with the 10-key.

| Item       | Content                                   | Setting range | Default |
|------------|---|---------------|---------|
| 0 HAIRLINE | Original with pencil lines and thin lines | 0 - 1         | 0       |
| 1 PRINTER  | Printed original                          |               |         |

**SIMULATION 46-39**  
FAX DOCUMENT TYPE SETTING. SELECT 0-1, AND PRESS START.

|            |   |
|------------|---|
| 0:HAIRLINE | 0 |
| 1:PRINTED  |   |

48

48-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the copy mode magnification ratio (main scanning direction, sub scanning direction). |
| <b>Section</b>            | Image processing  |
| <b>Item</b>               | Picture quality   |

#### Operation/procedure

1. Touch the item to be set.  
The item and the currently set value are highlighted.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density, and enter the adjustment value with the 10-key.
4. Press the [START] key.  
Copying is started.

| Item               | Content  | Setting range | Default |
|--------------------|--|---------------|---------|
| 1 F-R              | Main scanning magnification ratio adjustment       | 1-99          | 50      |
| 2 SCAN             | Sub scanning magnification ratio adjustment        |               | 60      |
| 3 SPF/RSPF (SIDE1) | SPF/RSPF surface sub scan magnification ratio      |               | 50      |
| 4 SPF/RSPF (SIDE2) | SPF/RSPF back surface sub scan magnification ratio |               |         |
| 5 DUPLEX           | DUPLEX sub scanning magnification ratio adjustment |               |         |

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

**SIMULATION 48-1**  
COPY MAGNIFICATION ADJUSTMENT. INPUT VALUE 1-99, AND PRESS START.

|               |    |    |
|---------------|----|----|
| 1: F-R        | 50 | 50 |
| 2: SCAN       | 60 |    |
| 3: SPF(SIDE1) | 50 |    |
| 4: SPF(SIDE2) | 50 |    |
| 5: DUPLEX     | 50 |    |

1/1

↑

↓

OK

48-2

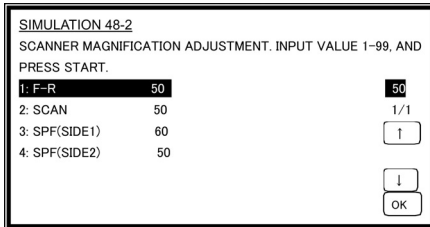
|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to adjust the scanner mode magnification ratio (main/sub scanning direction). |
| <b>Section</b>            | Image processing   |
| <b>Item</b>               | Picture quality  |

#### Operation/procedure

1. Touch the item to be set.  
The item and the currently set value are highlighted.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density, and enter the adjustment value with the 10-key.
4. Press the [START] key.  
Copying is started.



| Item          | Content  | Setting range | Default |
|---------------|--|---------------|---------|
| 1 F-R         | Main scanning magnification ratio adjustment   | 1-99          | 50      |
| 2 SCAN        | Sub scanning magnification ratio adjustment    |               |         |
| 3 SPF (SIDE1) | RSPF surface sub scan magnification ratio      |               |         |
| 4 SPF (SIDE2) | RSPF back surface sub scan magnification ratio |               |         |



48-8

|                           |                                     |
|---------------------------|-------------------------------------|
| <b>Purpose</b>            | Adjustment                          |
| <b>Function (Purpose)</b> | FAX magnification adjustment (read) |
| <b>Section</b>            | FAX                                 |
| <b>Related soft SW</b>    | SW112-1 to 8, SW113-1 to 8          |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is highlighted beside the item.
- Enter the set value of magnification with the 10-key, and press the [#P] key.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no operation of tray selection.

The optimum paper tray for the scanned size is selected.

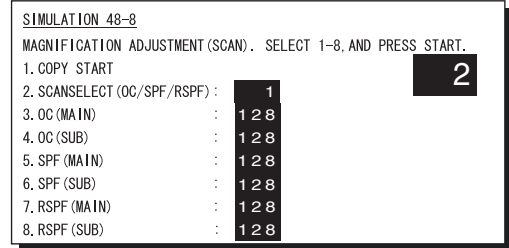
Even when the SPF/RSPF is selected, if there is no original on the SPF/RSPF, the OC is scanned.

Even when the OC is selected, if there is any original on the SPF/RSPF, the SPF/RSPF is scanned. (Setting 2)

| Item                        | Content  | Setting range | Default |
|-----------------------------|--|---------------|---------|
| 1 COPY START                | Copy start   | —             | —       |
| 2 SCAN SELECT (OC/SPF/RSPF) | Scan selection (OC/SPF/RSPF)                             | 1-255*        | 128     |
| 3 OC(MAIN)                  | SCAN Main scanning magnification ratio adjustment (OC)   | 1-255*        | 128     |
| 4 OC(SUB)                   | SCAN Sub scanning magnification ratio adjustment (OC)    | 1-255*        | 128     |
| 5 SPF(MAIN)                 | SCAN Main scanning magnification ratio adjustment (SPF)  | 1-255*        | 128     |
| 6 SPF(SUB)                  | SCAN Sub scanning magnification ratio adjustment (SPF)   | 1-255*        | 128     |
| 7 RSPF(MAIN)                | SCAN Main scanning magnification ratio adjustment (RSPF) | 1-255*        | 128     |
| 8 RSPF(SUB)                 | SCAN Sub scanning magnification ratio adjustment (RSPF)  | 1-255*        | 128     |

\* The adjustment can be made in the range of -12.7% - +12.7% by the increment of 0.1%.

Note: Executable only when the FAX is installed.



48-9

|                           |                                      |
|---------------------------|--------------------------------------|
| <b>Purpose</b>            | Adjustment                           |
| <b>Function (Purpose)</b> | FAX magnification adjustment (print) |
| <b>Section</b>            | FAX                                  |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is displayed beside the item.
- Press the [START] key.  
Copying is started and the set value is stored.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

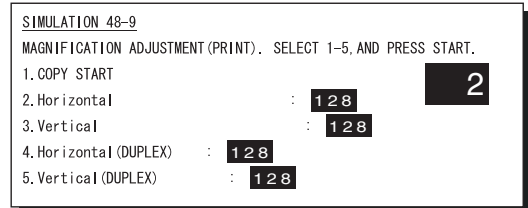
There is no operation of tray selection.

The optimum paper tray for the scanned size is selected.

When two pages are scanned, duplex printing is made.

| Item                  | Content  | Setting range | Default |
|-----------------------|--|---------------|---------|
| 1 COPY START          | Copy start   | 1-255         | 128     |
| 2 Horizontal          | Print magnification ratio adjustment (Horizontal, vertical to paper passing)                     | 1-255         | 128     |
| 3 Vertical            | Print magnification ratio adjustment (Vertical, parallel to paper passing)                       | 1-255         | 128     |
| 4 Horizontal (DUPLEX) | Print magnification ratio adjustment on the back surface (Horizontal, vertical to paper passing) | 1-255         | 128     |
| 5 Vertical (DUPLEX)   | Print magnification ratio adjustment on the back surface (Vertical, parallel to paper passing)   | 1-255         | 128     |

Note: Executable only when the FAX is installed.



50

50-1

|                           |   |                |
|---------------------------|---|----------------|
| <b>Purpose</b>            | Adjustment                                  |                |
| <b>Function (Purpose)</b> | Used to adjust the copy lead edge position. |                |
| <b>Item</b>               | Picture quality                             | Image position |

## Operation/procedure

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the adjustment value with the 10-key and press the [P] key.,  
The display goes to the copy menu.  
When the [START] key is pressed, the display goes to the copying state and print is started.

(When the [P] key is pressed: Copy menu)

3. Select the paper feed tray and the print density.  
Enter the exposure level with the 10-key.
4. Press the [START] key.  
Copying is started.

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

(Adjustment procedure)

1. Note down the adjustment value of SIM 50-5 (Items 1, 2, 3, 4), and change the value to 99.
2. Set SIM 50-1 (Items 2, 3, 4, 5) to 1. (By setting to 1, there is no void.)
3. Place a chart with a clear lead edge (or a ruler) on the OC document table.
4. Use SIM 50-1 (Item 1) to execute test print. Check the print out and adjust so that the lead edge image is printed. (1 - 99: About 0.127mm/Step)
5. Reset the adjustment values of SIM 50-5 (Items 1, 2, 3, 4) to the original values, and execute test print. Check the print out and adjust so that the lead edge image is printed on the lead edge of paper. (1 - 99: About 0.127mm/Step).
6. Adjust SIM 50-1 (Items 2, 3, 4, 5) so that the lead edge void on the print out is the specified value. (1 - 99: About 0.127mm/Step)
7. Similar to procedure 6, adjust SIM 50-1 (Item 6, 7) so that the rear edge void is the specified value. (1 - 99: About 0.127mm/Step)
8. Similar to procedure 6, adjust SIM 50-1 (Item 8, 9) so that the left edge void is the specified value. (1 - 99: About 0.127mm/Step)
9. Make an enlargement copy (400%), and check that there is no shade of the cabinet printed at the lead edge.
10. If there is a shade printed at the lead edge in procedure 9, adjust SIM 50-1 (Item 10). (1 - 5: About 0.677mm)  
\* If there is no problem, set to 2.

| Item | Content  | Setting range | Default |
|------|--|---------------|---------|
| 1    | RRC-A<br>Original scan start position adjustment<br>Lead edge position adjustment value (OC) | 1-99          | 43      |
| 2    | DEN-A<br>Lead edge cancel adjustment (Main cassette)   | 1-99          | 18      |
| 3    | DEN-A-MANUAL<br>Lead edge cancel adjustment (Manual feed cassette)                           | 1-99          | 18      |
| 4    | DEN-A -OPTION<br>Lead edge cancel adjustment (Option cassette)                               | 1-99          | 18      |
| 5    | DEN-A -DUPLEX<br>Lead edge cancel adjustment (back of the machine)                           | 1-99          | 18      |
| 6    | DEN-B<br>Rear edge void adjustment   | 1-99          | 30      |
| 7    | DEN-B-DUP<br>Rear edge void adjustment (Duplex)  | 1-99          | 50      |
| 8    | SIDE VOID<br>Left edge void adjustment (First print surface)                                 | 1-99          | 18      |
| 9    | SIDE VOID-DUP<br>Left edge void adjustment (Duplex)  | 1-99          | 18      |
| 10   | LOSS(OC)<br>Image loss amount adjustment (Lead edge image loss set value) (OC)               | 1-5           | 3       |

|  |    |                  |    |
|--|----|------------------|----|
| SIMULATION 50-1  |    |                  |    |
| LEAD EDGE ADJUSTMENT. INPUT VALUE 1-99, AND PRESS START. |    |                  |    |
| 1: RRC-A   | 43 | 2: DEN-A         | 18 |
| 3: DEN-A -MANUAL   | 18 | 4: DEN-A -OPTION | 18 |
| 5: DEN-A -DUPLEX   | 18 | 6: DEN-B         | 30 |
| 7: DEN-B-DUP   | 50 | 8: SIDE VOID     | 18 |
| 9: SIDE VOID-DUP   | 18 | 10: LOSS(OC)     | 3  |
|  |    | 1/1              |    |
|  |    | ↑                |    |
|  |    | ↓                |    |
|  |    | OK               |    |

50-5

| Purpose            | Adjustment   |
|--------------------|--|
| Function (Purpose) | Used to adjust the print image position (top margin) on the print paper in the print mode. |
| Item               | Picture quality      Print area  |

## Operation/procedure

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the adjustment value with the 10-key and press the [P] key.,  
The display goes to the copy menu.  
When the [START] key is pressed, the display goes to the copying state and print is started.

(When the [P] key is pressed: Copy menu)

3. Select the paper feed tray and the print density.  
Enter the exposure level with the 10-key.
4. Press the [START] key.  
Copying is started.

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

| Item | Content | Setting range   | Default |
|------|---------|-----------------|---------|
| 1    | TRAY1   | 1st cassette    | 53      |
| 2    | OPTION  | Option cassette |         |
| 3    | MANUAL  | Manual feed     |         |
| 4    | DUPLEX  | Back print      |         |

|   |    |    |     |
|---|----|----|-----|
| SIMULATION 50-5   |    |    |     |
| LEAD EDGE ADJUSTMENT(PRINT). INPUT VALUE 0-99, AND PRESS START. |    |    |     |
| 1: TRAY1  | 53 |    | 53  |
| 2: OPTION   | 53 |    | 1/1 |
| 3: MANUAL   | 53 |    | ↑   |
| 4: DUPLEX   | 53 |    | ↓   |
|   |    | OK |     |

50-6

| Purpose            | Adjustment   |
|--------------------|--|
| Function (Purpose) | Used to adjust the print image position (top margin) on print paper in the copy mode. (SPF/RSPF) |
| Item               | Picture quality      Image position  |

## Operation/procedure

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the adjustment value with the 10-key and press the [P] key.,  
The display goes to the copy menu.  
When the [START] key is pressed, the display goes to the copying state and print is started.

(When the [P] key is pressed: Copy menu)

3. Select the paper feed tray and the print density.  
Enter the exposure level with the 10-key.
4. Press the [START] key.  
Copying is started.

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

| Item             | Content   | Setting range | Default |
|------------------|---|---------------|---------|
| 1 SIDE1          | Surface original scan start position adjustment value | 1-99          | 50      |
| 2 SIDE2          | Back original scan start position set value           | 1-99          | 50      |
| 3 END EDGE       | Rear edge void adjustment value (SPF/RSPF)            | 1-99          | 50      |
| 4 LOSS(SIDE1)    | Surface image loss quantity set value                 | 1-5           | 3       |
| 5 LOSS(SIDE2)    | Back image loss quantity set value                    | 1-5           | 3       |
| 6 REARLOS(SIDE1) | Surface rear edge image loss quantity set value       | 1-5           | 3       |
| 7 REARLOS(SIDE2) | Back rear edge image loss quantity set value          | 1-5           | 3       |

**SIMULATION 50-6**  
LEAD EDGE ADJUSTMENT(SPF/RSPF). INPUT VALUE 1-99, AND PRESS START.

|                   |    |     |
|-------------------|----|-----|
| 1: SIDE1          | 50 | 50  |
| 2: SIDE2          | 50 | 1/1 |
| 3: END EDGE       | 50 | ↑   |
| 4: LOSS(SIDE1)    | 3  |     |
| 5: LOSS(SIDE2)    | 3  |     |
| 6: REARLOS(SIDE1) | 3  | ↓   |
| 7: REARLOS(SIDE2) | 3  | OK  |

50-8

**The adjustments on the machine side must have been normally completed.**

|                           |                                 |
|---------------------------|---------------------------------|
| <b>Purpose</b>            | Adjustment                      |
| <b>Function (Purpose)</b> | FAX lead edge adjustment (read) |
| <b>Section</b>            | FAX                             |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is highlighted beside the item.
- Enter the correction value with the 10-key, and press the [#]/P key.
- Press the [START] key.  
Copying is started.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

- Select the scanning method.

Even when the SPF/RSPF is selected, if there is no original on the SPF/RSPF, the OC is scanned.

Even when the OC is selected, if there is any original on the SPF/RSPF, the SPF/RSPF is scanned. (Setting 2)

| Item                        | Content   | Setting range | Default |
|-----------------------------|---|---------------|---------|
| 1 COPY START                | Copy start  | —             | —       |
| 2 SCAN SELECT (OC/SPF/RSPF) | Scan selection (1: OC, 2: SPF, 3: RSPF back)                          | 1-3           | 1       |
| 3 LEAD                      | Scan lead edge position adjustment value of the selected method in 2. | 43-57         | 50      |
| 4 LEFT                      | Scan left edge position adjustment value of the selected method in 2. | 43-57         | 50      |

| Item    | Content  | Setting range | Default |
|---------|--|---------------|---------|
| 5 REAR  | Scan rear edge position adjustment value of the selected method in 2.  | 43-57         | 50      |
| 6 RIGHT | Scan right edge position adjustment value of the selected method in 2. | 43-57         | 50      |

Note: Executable only when the FAX is installed.

**SIMULATION 50-8**  
FAX SCAN IMAGELOSS ADJUSTMENT. SELECT 1-6, AND PRESS START.

1. COPY START

2. SCAN SELECT (OC/SPF/RSPF) : 1

3. LEAD : 50

4. LEFT : 50

5. REAR : 50

50-9

|                           |                                  |
|---------------------------|----------------------------------|
| <b>Purpose</b>            | Adjustment                       |
| <b>Function (Purpose)</b> | FAX lead edge adjustment (print) |
| <b>Section</b>            | FAX                              |

#### Operation/procedure

- Select "1: COPY START."  
The currently set value is highlighted beside the item.
- Press the [START] key.  
Copying is started.

|                |              |
|----------------|--------------|
| Normal display | NOW PRINTING |
| Error display  | DOOR OPEN    |
|                | JAM          |
|                | PAPER EMPTY  |

There is no tray selection operation.

The optimum paper tray for the scanned size is selected.

When two pages are scanned, duplex print is made,

| Item            | Content   | Setting range | Default |
|-----------------|---|---------------|---------|
| 1 COPY START    | Copy start  | —             | —       |
| 2 LEAD          | Print lead edge void adjustment value (Front surface) | 43-57         | 50      |
| 3 LEFT          | Print left edge void adjustment value (Front surface) | 43-57         | 50      |
| 4 REAR          | Print rear edge void adjustment value (Front surface) | 43-57         | 50      |
| 5 LEAD (DUPLEX) | Print lead edge void adjustment value (Back surface)  | 43-57         | 50      |
| 6 LEFT (DUPLEX) | Print left edge void adjustment value (Back surface)  | 43-57         | 50      |
| 7 REAR (DUPLEX) | Print rear edge void adjustment value (Back surface)  | 43-57         | 50      |

Note: Executable only when the FAX is installed.

**SIMULATION 50-9**  
FAX PRINT VOID ADJUSTMENT. SELECT 1-7, AND PRESS START.

1. COPY START

2. LEAD : 50

3. LEFT : 50

4. REAR : 50

5. LEAD (DUPLEX) : 50

6. LEFT (DUPLEX) : 50

7. REAR (DUPLEX) : 50

## 50-10

|                           |   |                |
|---------------------------|---|----------------|
| <b>Purpose</b>            | Adjustment  |                |
| <b>Function (Purpose)</b> | Used to adjust the print image center position. (Adjustment can be made for each paper feed section.) |                |
| <b>Section</b>            | Image processing (ICU)  |                |
| <b>Item</b>               | Picture quality   | Image position |

**Operation/procedure**

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the adjustment value with the 10-key and press the [P] key.,  
The display goes to the copy menu.  
When the [START] key is pressed, the display goes to the copying state and print is started.

(When the [P] key is pressed: Copy menu)

3. Select the paper feed tray and the print density.  
Enter the exposure level with the 10-key.
4. Press the [START] key.  
Copying is started.

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

| Item | Content | Setting range | Default |
|------|---------|---------------|---------|
| 1    | BYPASS  | 1-99          | 50      |
| 2    | TRAY1   |               |         |
| 3    | TRAY2   |               |         |
| 4    | TRAY3   |               |         |
| 5    | TRAY4   |               |         |
| 6    | DUPLEX  |               |         |

|   |    |
|---|----|
| <b>SIMULATION 50-10</b>   |    |
| PRINT OFF-CENTER ADJUSTMENT. INPUT VALUE 1-99, AND PRESS START. |    |
| 1: BYPASS   | 50 |
| 2: TRAY1  | 50 |
| 3: TRAY2  | 50 |
| 4: TRAY3  | 50 |
| 5: TRAY4  | 50 |
| 6: DUPLEX   | 50 |

## 50-12

|                           |  |                |
|---------------------------|--|----------------|
| <b>Purpose</b>            | Adjustment   |                |
| <b>Function (Purpose)</b> | Used to adjust the print image center position. (Adjustment can be made for each document mode.) |                |
| <b>Section</b>            | Image processing   |                |
| <b>Item</b>               | Picture quality  | Image position |

**Operation/procedure**

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the adjustment value with the 10-key and press the [P] key.,  
The display goes to the copy menu.  
When the [START] key is pressed, the display goes to the copying state and print is started.

(When the [P] key is pressed: Copy menu)

3. Select the paper feed tray and the print density.  
Enter the exposure level with the 10-key.
4. Press the [START] key.  
Copying is started.

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

| Item | Content    | Setting range | Default |
|------|------------|---------------|---------|
| 1    | OC         | 1-99          | 50      |
| 2    | SPF(SIDE1) |               |         |
| 3    | SPF(SIDE2) |               |         |

|  |    |
|--|----|
| <b>SIMULATION 50-12</b>  |    |
| ORIGINAL OFF-CENTER ADJUSTMENT. INPUT VALUE 1-99, AND PRESS START. |    |
| 1: OC  | 50 |
| 2: SPF(SIDE1)  | 50 |
| 3: SPF(SIDE2)  | 50 |

## 51

## 51-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the OPC drum separation pawl ON time.        |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning) |
| <b>Item</b>               | Operation   |

**Operation/procedure**

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the adjustment value with the 10-key.

| Item | Setting range | Default |
|------|---------------|---------|
| 1    | 600dpi        | 50      |
| 2    | 1200dpi       |         |

|   |    |
|---|----|
| <b>SIMULATION 51-1</b>                                    |    |
| D/F TIMING ADJUSTMENT. INPUT VALUE 1-99, AND PRESS START. |    |
| 1: 600dpi   | 50 |
| 2: 1200dpi  | 50 |

## 51-2

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to adjust the contact pressure of paper onto the resist roller in each section (copier paper feed section, duplex paper feed section, SPF/RSPF paper feed section). (When the print image position varies greatly for the paper or when a lot of paper jam troubles occur, the adjustment is required.) |
| <b>Section</b>            | Paper transport (Discharge/Switchback/Transport)   |
| <b>Item</b>               | Operation  |

**Operation/procedure**

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density.  
Enter the adjustment value with the 10-key.
4. Press the [START] key.  
Copying is started.

Note: When this simulation is canceled, the display is shifted to the initial menu, but the machine is not reset.

| Item |            | Content           | Setting range | Default |
|------|------------|-------------------|---------------|---------|
| 1    | BYPASS     | Manual feed       | 1-99          | 50      |
| 2    | TRAY1      | 1st cassette      | 1-99          | 70      |
| 3    | TRAY2      | 2nd cassette      | 1-99          | 50      |
| 4    | TRAY3      | 3rd cassette      | 1-99          | 50      |
| 5    | TRAY4      | 4th cassette      | 1-99          | 50      |
| 6    | DUPLEX     | Back print        | 1-99          | 70      |
| 7    | SPF(SIDE1) | SPF front surface | 1-99          | 50      |
| 8    | SPF(SIDE2) | SPF back surface  | 1-99          | 50      |

**SIMULATION 51-2**  
RESIST TIMING ADJUSTMENT. INPUT VALUE 1-99, AND PRESS START.

|               |    |               |    |     |
|---------------|----|---------------|----|-----|
| 1: BYPASS     | 50 | 2: TRAY1      | 70 | 50  |
| 3: TRAY2      | 50 | 4: TRAY3      | 50 | 1/1 |
| 5: TRAY4      | 50 | 6: DUPLEX     | 70 | ↑   |
| 7: SPF(SIDE1) | 50 | 8: SPF(SIDE2) | 50 | ↓   |

OK

51-8

| Purpose                   | Setting  |
|---------------------------|--|
| <b>Function (Purpose)</b> | Used to set the OPC drum separation pawl operation inhibit. (ON/OFF) |
| <b>Section</b>            | Image process (Photoconductor/Developing/Transfer/Cleaning)          |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Select the set value with the 10-key.

| Item |     | Content | Setting range | Default |
|------|-----|---------|---------------|---------|
| 0    | ON  | Enable  | 0-1           | 0       |
| 1    | OFF | Disable |               |         |

**SIMULATION 51-8**  
DETACH FINGER SETTING. SELECT 0-1, AND PRESS START.

0:ON  
1:OFF

1

51-9

| Purpose                   | Setting   |
|---------------------------|---|
| <b>Function (Purpose)</b> | Used to adjust the OPC drum separation voltage ON/OFF timing. |
| <b>Section</b>            | Process (OPC drum, developing, transfer, cleaning)            |
| <b>Item</b>               | Operation   |

#### Operation/Procedure

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the set value with the 10-key.

| Item | Content   | Setting range | Default |
|------|---|---------------|---------|
| 1    | SHV ON<br>Separation voltage ON timing<br>* Transfer V2ON reference<br>(Synchronized with the adjustment value of 50.)    | 25-90         | 50      |
| 2    | SHV OFF<br>Separation voltage OFF timing<br>* Transfer V2OFF reference<br>(Synchronized with the adjustment value of 50.) | 50-90         | 75      |

**SIMULATION 51-9**  
SHV SETTING. INPUT VALUE 25-90, AND PRESS START.

1: SHV ON 50  
2: SHV OFF 50

1/1  
↑  
↓  
OK

53

53-6

| Purpose                   | Adjustment  |
|---------------------------|---|
| <b>Function (Purpose)</b> | Used to adjust the detection level of the SPF/RSPF width. The adjustment method is the 4-point system. Set the guide to Max. (A3/WLetter) position, A4R/ Letter R position, A5R/Invoice R position, and Min. position for adjustment. |
| <b>Section</b>            | SPF/RSPF  |

#### Operation/Procedure

##### (Max. position setting)

1. Set the guide to the maximum position, and press the [START] key.  
Set WLetter and fit the guide, and press the [START] key.
2. Set A4R/Letter R and fit the guide, and press the [START] key.
3. Set A5R/Invoice R and fit the guide, and press the [START] key.
4. Set the guide to the minimum position, and press the [START] key.
5. Set the paper recognition width (+), and press the [START] key.
6. Set the paper recognition width (-), and press the [START] key.

If "FAILED" is displayed in the above procedure 1, 2, 3, or 4, repeat the adjustment.

##### (Middle position L/S setting)

If the middle position adjustment is not required, press the [START] key without changing the guide position.

|                              |     |               |
|------------------------------|-----|---------------|
| Middle position adjustment L | YES | MID-L ADJ.ON  |
|                              | NO  | MID-L ADJ.OFF |
| Middle position adjustment S | YES | MID-S ADJ.ON  |
|                              | NO  | MID-S ADJ.OFF |

AB series

Inch series

**SIMULATION 53-6**  
SPF TRAY ADJUSTMENT.  
A3 PAPER SET, AND  
PRESS START KEY.

**SIMULATION 53-6**  
SPF TRAY ADJUSTMENT.  
WLT PAPER SET, AND  
PRESS START KEY.

53-7

| Purpose                   | Adjustment   |
|---------------------------|--|
| <b>Function (Purpose)</b> | Used to enter the SPF/RSPF width detection adjustment value. |
| <b>Section</b>            | SPF/RSPF   |

#### Operation/Procedure

1. Touch the item to be adjusted.  
The item and the currently set value are highlighted.
2. Enter the SPF/RSPF original tray size adjustment value (specified on the back of the SPF/RSPF) with the 10-key.

| Item | Content      | Setting range | Default |
|------|--------------|---------------|---------|
| 1    | MAX POSITION | 0 - 999       | 0       |
| 2    | POSITION 1   |               |         |
| 3    | POSITION 2   |               |         |
| 4    | MIN POSITION |               |         |

#### SIMULATION 53-7

SPF TRAY ADJUSTMENT(MANUAL). INPUT VALUE 0-999, AND PRESS START.

1: MAX. POSITION 0  
2: POSITION1 0  
3: POSITION2 0  
4: MIN. POSITION 0

0

1/1

↑

↓

OK

53-8

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the SPF/RSPF scan position of the mirror unit automatically. For the SPF/RSPF scan position automatic adjustment, the mirror unit is shifted to 11mm before the SPF/RSPF glass cover edge, and is operated automatically to scan images by the unit of 1 step, detecting the position up to the glass cover automatically.<br>(Adjustment value)<br>Default: 50, Adjustment range: 1 - 99<br>Adjustment unit: 1 = about 0.12mm |

#### Operation/Procedure

With the SPF/RSPF or the OC cover open, put a black background chart on the OC glass (the SPF/RSPF glass surface is included for the SPF/RSPF standard model), and press the [START] key.

If the adjustment is executed normally, the adjustment value is displayed and saved in the EEPROM. If an error occurs, "ERR" is displayed and the value is not saved in the EEPROM.

If the adjustment is not performed because of abnormality, "---" is displayed.

During execution of the adjustment, the operation cannot be interrupted.

#### SIMULATION 53-8

SPF SCANNING POSITION ADJUSTMENT(AUTO). PRESS START.

61

61-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check                             |
| <b>Function (Purpose)</b> | Used to check the LSU (polygon motor) operation. |
| <b>Section</b>            | LSU  |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Press the [START] key, and the LSU test is performed.

Used to set the LSU to ON state and check that the sync signal (HSYNC/) is outputted or not.

After operation for 30 sec, the result is displayed. (Interruption cannot be made for 5 sec after starting the operation.)

#### SIMULATION 61-1

LSU TEST. PRESS START.

63

63-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment/setting/operation data output/check (display/print)                               |
| <b>Function (Purpose)</b> | Used to check the result of shading correction. (The shading correction data are displayed.) |
| <b>Section</b>            | Scanner (Exposure)   |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Pressing the [START] key performs shading, and displays the result (center pixel).

#### SIMULATION 63-1

SHADING DATA DISPLAY. PRESS START.

63-7

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to adjust the SPF/RSPF white correction start pixel position automatically.<br>This adjustment is performed after the lens unit is replaced. |
| <b>Section</b>            | Scanner   |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Set the SPF/RSPF unit OPEN, and press the [START] key.

[ ] indicates the order number of the pixel of the white sheet for SPF/RSPF exposure correction in the SPF/RSPF position.

If the adjustment is normally completed, "COMPLETE" is displayed and data are written into the EEPROM.

In case of an abnormality, "ERROR" is displayed and no data is written into the EEPROM.

The SPF/RSPF white correction start pixel = Displayed pixel position - 34

If the simulation is executed with the SPF/RSPF unit closed, an error is resulted.

#### SIMULATION 63-7

SHADING POSITION ADJUSTMENT. PRESS START.

64

64-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the operation of the printer function (auto print operation). |
| <b>Section</b>            | Printer   |
| <b>Item</b>               | Operation   |

## Operation/procedure

1. Select the print item with the 10-key.
2. Press the [START] key.  
The display is shifted to the copy menu.
3. Select the paper feed tray and the print density.
4. Press the [START] key.  
Copying is started.

During execution of copying, the [CUSTOM SETTINGS] key and the [INTERRUPTION] key are invalid.

| Item | Content  | Setting range | Default |
|------|--|---------------|---------|
| 1    | 2 BY 4 MODE<br>Self print is made in 2 by 4 mode (printing 2 lines and not printing 4 lines). Since scanning is not performed, when the original is set on the SPF/RSPF, this cannot be performed.<br>* Duplex print cannot be made. | 1-2           | 1       |
| 2    | LATTICE PRINT<br>Lattice print (1cm, 1dot width WLT, A3 print (A3 main scan, WLT sub scan)) is performed.<br>* Duplex print can be made.   |               |         |

\* If the IMC board is not installed, the key inputs cannot be made.

### SIMULATION 64-1

SELF PRINT MODE. SELECT 1-2, AND PRESS START.

- 1: 2 BY 4 MODE  
2: LATTICE PRINT

## 65

### 65-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Adjustment   |
| <b>Function (Purpose)</b> | Used to adjust the touch panel (LCD display section) detection position. |
| <b>Section</b>            | Operation (Display, Operation)   |

## Operation/Procedure

Press the keys displayed on the LCD sequentially.

Adjust the touch panel coordinates.

When the point of "+" on the LCD is pressed, it turns gray. Press all the four points of "+."

### SIMULATION 65-1

+

+

+

+

### 65-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Setting/Operation data output check (Display, Print)                           |
| <b>Function (Purpose)</b> | Used to check the touch panel (LCD display section) detection position adjustment result. |
| <b>Section</b>            | Operation (Display, Operation)  |

## Operation/Procedure

Check the touch panel coordinates.

Press the keys displayed on the LCD sequentially.

When the touch panel is pressed, the X-coordinate and the Y-coordinate (dot conversion values) are displayed.

### SIMULATION 65-2

100 200 300 400 500 600  
100 + + + + +  
140 + X: 800 + + +  
180 + Y: 200 + + +

### 65-5

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment/Setting/Operation data output check (Display, Print) |
| <b>Function (Purpose)</b> | Used to check the key inputs of the operation panel.            |
| <b>Section</b>            | Operation (screen/operation)                                    |

## Operation/procedure

Check the key input of the operation panel.

Press the keys displayed on the LCD sequentially.

After completion of all key entries, "COMPLETE" is displayed.

### SIMULATION 65-5

OPERATION PANEL KEY CHECK.  
COPY

## 66

### 66-1

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Setting   |
| <b>Function (Purpose)</b> | Used to change and check the FAX-related soft SW. |
| <b>Section</b>            | FAX   |

## Operation/procedure

1. Enter the soft SW number to be selected with the 10-key.
2. Check and change the setting content of the selected soft SW.
3. Press the [START] key to save the set content.

The FAX-related soft SW is displayed on the LCD, and changing can be made by monitoring it.

Note: Executable only when the FAX is installed.

### SIMULATION 66-1

FAX SOFT SW. SETTING. SELECT 2~99, AND PRESS START.

1

### 66-2

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Adjustment  |
| <b>Function (Purpose)</b> | Used to clear the FAX-related soft SW. (Except for the FAX adjustment values) |
| <b>Section</b>            | FAX   |

## Operation/procedure

1. Enter the country code with the 10-key, and press the [START] key.
2. When "1: (YES)" is selected, the soft SW corresponding to the country code is cleared. When "2: (NO)" is selected, the simulation is canceled.

#### Country code

Japan : 00000000  
 U.S.A. : 10110101  
 Australia : 00001001  
 U.K : 10110100  
 France : 00111101  
 Germany : 00000100  
 Sweden : 10100101  
 New Zealand : 01111110  
 China : 00100110  
 Singapore : 10011100  
 TW : 11111110  
 Other 1 : 11111101  
 Other 2 : 11111100  
 Other 3 : 11111011

The codes other than the above are accepted as Japan.

Note: Executable only when the FAX is installed.

#### SIMULATION 66-2

FAX SOFT SW. CLEAR (WITHOUT ADJUSTMENT VALUE).

INPUT COUNTRY CODE No (1-8), AND PRESS START. 1 2 3 4 5 6 7 8

00001001

#### 66-3

|                           |                      |
|---------------------------|----------------------|
| <b>Purpose</b>            | Operation test/check |
| <b>Function (Purpose)</b> | FAX PWB memory check |
| <b>Section</b>            | FAX                  |
| <b>Item</b>               | Operation            |

#### Operation/procedure

Press the [START] key.

Read/write can be checked for FAX PWB memory.

The check result is displayed separately for each memory.

##### 1. Memory to be checked

|               |              |   |
|---------------|--------------|---|
| DRAM          |              |   |
| SRAM          |              |   |
| Flash ROM     | Program area | SUM check only  |
|               | Memory area  |   |
| Option memory |              | The memory size follows the automatically detected value. |
| PAGE          |              |   |

##### 2. Detailed procedure

|   |  |
|---|--|
| 1 | "55H" is written to all the addresses of each memory, and the address data are read in sequence to check that they were properly written.      |
| 2 | "AAH" is written to all the addresses of each memory, and the address data are read in sequence to check that they were properly written.      |
| 3 | "00H" is written to all the addresses of each memory, and the address data are read in sequence to check that they were properly written.      |
| 4 | Perform checks 1 - 3 sequentially. If there is no abnormality, it is "OK." If there is any abnormality, "NG" is notified to the error address. |
| 5 | After completion of check, the memory is returned to the initial state.<br>(CPU is not reset)  |

Interruption cannot be made during operation.

Note: Executable only when the FAX is installed.

#### SIMULATION 66-3

FAX PWB MEMORY CHECK. SELECT 1-5, AND PRESS START.

1. DRAM :  
 2. SRAM : NG:B0400000  
 3. FLASH :  
 4. OPTION :  
 5. PAGE :

1

#### 66-4

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check                       |
| <b>Function (Purpose)</b> | Signal send mode (Signal send level: Max.) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation                                  |

#### Operation/procedure

Select the signal number with the 10-key, and press the [START] key. The signal is sent to the line and the machine speaker. (Sending the signal is continued until the [CUSTOM SETTINGS] key is pressed.)

By entering the signal number and pressing the [START] key during execution, the signal kind can be changed.

| Item        | Send signal  | Send level Selection menu |
|-------------|--|---------------------------|
| 1 NO SIGNAL | Signal not sent  | None                      |
| 2 33.6 V34  | —  | —                         |
| 3 31.2 V34  | —  | —                         |
| 4 28.8 V34  | —  | —                         |
| 5 26.4 V34  | —  | —                         |
| 6 24.0 V34  | —  | —                         |
| 7 16.0 V34  | —  | —                         |
| 8 19.2 V34  | —  | —                         |
| 9 16.8 V34  | —  | —                         |
| 10 14.4 V34 | —  | —                         |
| 11 12.0 V34 | —  | —                         |
| 12 9.6 V34  | —  | —                         |
| 13 7.2 V34  | —  | —                         |
| 14 4.8 V34  | —  | —                         |
| 15 2.4 V34  | —  | —                         |
| 16 14.4 V33 | —  | —                         |
| 17 12.0 V33 | —  | —                         |
| 18 14.4 V17 | —  | —                         |
| 19 12.0 V17 | —  | —                         |
| 20 9.6 V17  | —  | —                         |
| 21 7.2 V17  | —  | —                         |
| 22 9.6 V29  | —  | —                         |
| 23 7.2 V29  | —  | —                         |
| 24 4.8 V27t | —  | —                         |
| 25 2.4 V27t | —  | —                         |
| 26 0.3 FLG  | 7EH Flag signal  | Yes                       |
| 27 CED2100  | Tone signal  | Yes                       |
| 28 CNG1100  |  |                           |
| 29 0.3 V21  |  |                           |
| 30 ANSam    |  |                           |
| 31 RINGER   | Pseudo-ringer sound ([ON HOOK] key ON)   | None                      |
| 32 No MSG   | Voice message (no sound)<br>Under the state where the ring back tone can be sent to the line, keep the sound composition IC volume to 0. | None                      |
| 33 No RBT   | Ring back tone (no sound)<br>Under the state where the ring back tone can be sent to the line, keep the G/A volume to 0.                 | None                      |



| Item | Send signal  | Send level<br>Selection<br>menu |
|------|--|---------------------------------|
| 34   | Dial pulse (make)  | 1: 0dB<br>2: Soft SW            |
|      | Maintain the make state with keeping the condition to be able to send to the dial pulse line.  |                                 |
| 35   | Dial pulse (break)   | 1: 0dB<br>2: Soft SW            |
|      | Maintain the break state with keeping the condition to be able to send to the dial pulse line. |                                 |

Note: Executable only when the FAX is installed.

|  |              |              |              |
|--|--------------|--------------|--------------|
| SIMULATION 66-4  |              |              |              |
| SIGNAL OUTPUT CHECK (LEVEL MAX). SELECT 1-35, AND PRESS START. |              |              |              |
| 1. NO SIGNAL   | 2. 33.6 V34  | 3. 31.2 V34  | 4. 28.8 V34  |
| 5. 26.4 V34  | 6. 24.0 V34  | 7. 21.6 V34  | 8. 19.2 V34  |
| 9. 16.8 V34  | 10. 14.4 V34 | 11. 12.0 V34 | 12. 9.6 V34  |
| 13. 7.2 V34  | 14. 4.8 V34  | 15. 2.4 V34  | 16. 14.4 V33 |
| 17. 12.0 V33   | 18. 14.4 V17 | 19. 12.0 V17 | 20. 9.6 V17  |
| 21. 7.2 V17  | 22. 9.6 V29  | 23. 7.2 V29  | 24. 4.8 V27t |
| 25. 2.4V27t  | 26. 0.3 FLG  | 27. CED 2100 | 28. CNG 1100 |
| 29. 0.3 V21  | 30. ANSam    | 31. RINGER   | 32. No RBT   |
| 33. No RBT   | 34. DP MAKE  | 35. DP BRK   |              |

1

66-5

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check                                 |
| <b>Function (Purpose)</b> | Signal send mode (Signal send level soft SW setting) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Select the signal number with the 10-key, and press the [START] key.

By setting the signal number, signals are sent to the line and the machine speaker. (Sending signals is continued until interruption command is made (by pressing [CUSTOM SETTINGS] key).)

By entering the signal number and pressing the [START] key during execution, the signal kind can be changed.

| Signal number | Send signal | Send level<br>Selection<br>menu |
|---------------|-------------|---------------------------------|
| 1             | NO SIGNAL   | Signal not sent                 |
| 2             | 33.6 V34    | 33.6 V34                        |
| 3             | 31.2 V34    | 31.2 V34                        |
| 4             | 28.8 V34    | 28.8 V34                        |
| 5             | 26.4 V34    | 26.4 V34                        |
| 6             | 24.0 V34    | 24.0 V34                        |
| 7             | 16.0 V34    | 16.0 V34                        |
| 8             | 19.2 V34    | 19.2 V34                        |
| 9             | 16.8 V34    | 16.8 V34                        |
| 10            | 14.4 V34    | 14.4 V34                        |
| 11            | 12.0 V34    | 12.0 V34                        |
| 12            | 9.6 V34     | 9.6 V34                         |
| 13            | 7.2 V34     | 7.2 V34                         |
| 14            | 4.8 V34     | 4.8 V34                         |
| 15            | 2.4 V34     | 2.4 V34                         |
| 16            | 14.4 V33    | 14.4 V33                        |
| 17            | 12.0 V33    | 12.0 V33                        |
| 18            | 14.4 V17    | 14.4 V17                        |
| 19            | 12.0 V17    | 12.0 V17                        |
| 20            | 9.6 V17     | 9.6 V17                         |
| 21            | 7.2 V17     | 7.2 V17                         |
| 22            | 9.6 V29     | 9.6 V29                         |
| 23            | 7.2 V29     | 7.2 V29                         |
| 24            | 4.8 V27t    | 4.8 V27t                        |
| 25            | 2.4 V27t    | 2.4 V27t                        |
| 26            | 0.3 FLG     | 7EH Flag signal                 |
|               |             | Yes                             |

| Signal number |         | Send signal  | Send level<br>Selection menu |
|---------------|---------|--|------------------------------|
| 27            | CED2100 | Tone signal  | Yes                          |
| 28            | CNG1100 |  |                              |
| 29            | 0.3 V21 |  |                              |
| 30            | ANSam   |  |                              |
| 31            | RINGER  | Pseudo-ringer sound<br>([ON HOOK] key ON)  | None                         |
| 32            | No MSG  | Voice message (no sound)   | None                         |
|               |         | Under the state where the ring back tone can be sent to the line, keep the sound composition IC volume to 0. |                              |
| 33            | No RBT  | Ring back tone (no sound)  | None                         |
|               |         | Under the state where the ring back tone can be sent to the line, keep the G/A volume to 0.                  |                              |
| 34            | DP MAKE | Dial pulse (make)  | 1: 0dB<br>2: Soft SW         |
|               |         | Maintain the make state with keeping the condition to be able to send to the dial pulse line.                |                              |
| 35            | DP BRK  | Dial pulse (break)   | 1: 0dB<br>2: Soft SW         |
|               |         | Maintain the break state with keeping the condition to be able to send to the dial pulse line.               |                              |

Note: Executable only when the FAX is installed.

|   |              |              |              |
|---|--------------|--------------|--------------|
| SIMULATION 66-5   |              |              |              |
| SIGNAL OUTPUT CHECK (SOFT SW.). SELECT 1-35, AND PRESS START. |              |              |              |
| 1. NO SIGNAL  | 2. 33.6 V34  | 3. 31.2 V34  | 4. 28.8 V34  |
| 5. 26.4 V34   | 6. 24.0 V34  | 7. 21.6 V34  | 8. 19.2 V34  |
| 9. 16.8 V34   | 10. 14.4 V34 | 11. 12.0 V34 | 12. 9.6 V34  |
| 13. 7.2 V34   | 14. 4.8 V34  | 15. 2.4 V34  | 16. 14.4 V33 |
| 17. 12.0 V33  | 18. 14.4 V17 | 19. 12.0 V17 | 20. 9.6 V17  |
| 21. 7.2 V17   | 22. 9.6 V29  | 23. 7.2 V29  | 24. 4.8 V27t |
| 25. 2.4V27t   | 26. 0.3 FLG  | 27. CED 2100 | 28. CNG 1100 |
| 29. 0.3 V21   | 30. ANSam    | 31. RINGER   | 32. No RBT   |
| 33. No RBT  | 34. DP MAKE  | 35. DP BRK   |              |

1

66-6

|                           |                                    |                        |
|---------------------------|------------------------------------|------------------------|
| <b>Purpose</b>            | Data output, check                 |                        |
| <b>Function (Purpose)</b> | Printing the confidential password |                        |
| <b>Section</b>            | FAX                                |                        |
| <b>Item</b>               | Data                               | Confidential/Pass code |

#### Operation/procedure

Press the [START] key.

The confidential ID table (confidential BOX numbers, confidential BOX names, and confidential password) is printed.

The confidential data of My company mode is printed separately.

Note: Executable only when the FAX is installed.

|                                   |  |
|-----------------------------------|--|
| SIMULATION 66-6                   |  |
| PASS CODE PRINT OUT. PRESS START. |  |
| 1. PRINT                          |  |

1

66-7

|                           |                                  |            |
|---------------------------|----------------------------------|------------|
| <b>Purpose</b>            | Data output, check               |            |
| <b>Function (Purpose)</b> | Print the screen memory contents |            |
| <b>Section</b>            | FAX                              |            |
| <b>Item</b>               | Data                             | Image data |

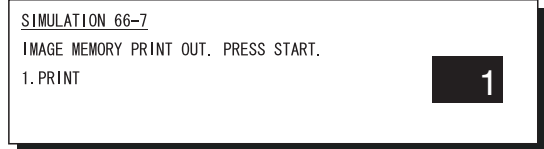
#### Operation/procedure

Press the [START] key.

Used to input all image data (including confidential reception data, remote send image, not-sent image) stored in image memory of the FAX section.

The output image is remained even after outputting.

Note: Executable only when the FAX is installed.



#### 66-8

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check                                      |
| <b>Function (Purpose)</b> | Voice Message send (Signal send level: Max.) (Japan only) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Select the message number with the 10-key, and press the [START] key.

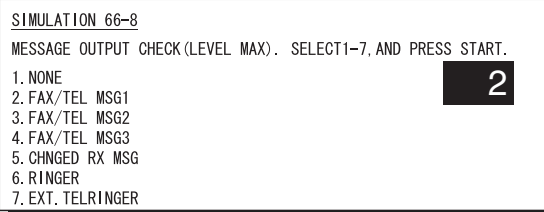
By setting the message No., the sound message is sent to the line and the speaker of the body. (The message is repeated until the interruption command is provided by pressing the [CUSTOM SETTINGS] key.)

By pressing the [START] key during execution, the signal kind can be changed.

| Item             | Voice message   |
|------------------|---|
| 1 NONE           | Silent  |
| 2 FAX/TEL MSG1   | "Hold the line a minute, please send fax." (TEL/FAX voice response) |
| 3 FAX/TEL MSG2   | "Hold the line a minute." (TEL/FAX voice response)                  |
| 4 FAX/TEL MSG3   | "Not around here, please send fax." (TEL/FAX voice response)        |
| 5 CHANGED RX MSG | "Ding Dong" (Sound delivered when switching to remote reception)    |
| 6 RINGER         | Call sound  |
| 7 EXT.TEL RINGER | External telephone call   |

Message No. 5 can be heard by an external telephone speaker.

Note: Executable only when the FAX is installed.



#### 66-9

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to send the voice message. (Signal send level: Set by soft SW.) (Japan only) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Select the message number with the 10-key, and press the [START] key.

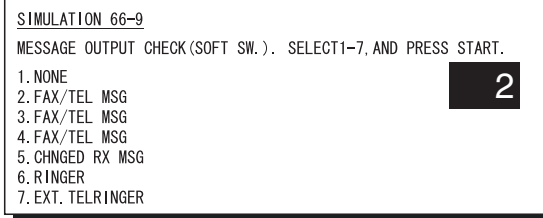
By setting the message No., the sound message is sent to the line and the speaker of the body. (The message is repeated until the interruption command is provided by pressing the [CUSTOM SETTINGS] key.)

By pressing the [START] key during execution, the signal kind can be changed.

| Item             | Voice message   |
|------------------|---|
| 1 NONE           | Silent  |
| 2 FAX/TEL MSG1   | "Hold the line a minute, please send fax." (TEL/FAX voice response) |
| 3 FAX/TEL MSG2   | "Hold the line a minute." (TEL/FAX voice response)                  |
| 4 FAX/TEL MSG3   | "Not around here, please send fax." (TEL/FAX voice response)        |
| 5 CHANGED RX MSG | "Ding Dong" (Sound delivered when switching to remote reception)    |
| 6 RINGER         | Call sound  |
| 7 EXT.TEL RINGER | External telephone call   |

Message No. 5 can be heard by an external telephone speaker.

Note: Executable only when the FAX is installed.



#### 66-10

|                           |                          |
|---------------------------|--------------------------|
| <b>Purpose</b>            | Adjustment/Setting/Check |
| <b>Function (Purpose)</b> | Image data memory clear  |
| <b>Section</b>            | FAX                      |
| <b>Item</b>               | Data                     |

#### Operation/procedure

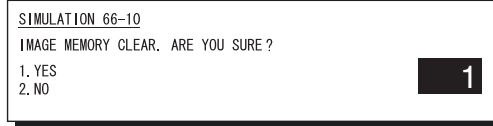
Select "1: YES" with the 10-key and press the [START] key. (When "2: NO" is selected, the simulation is canceled.)

Used to clear all image data (including confidential reception data) stored in image memory of the FAX section.

The management table is also cleared (initialized) at the same time.

\* If there is any print data, the power must be turned off after clearing.

Note: Executable only when the FAX is installed.



#### 66-11

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check                                   |
| <b>Function (Purpose)</b> | Used to send 300bps signals. (Signal send level: Max.) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Select the signal number with the 10-key, and press the [START] key.

By setting the signal number, the specified signal is delivered to the line at the speed of 300bps. (The signal is continuously sent until the interruption command is provided by pressing the [CUSTOM SETTINGS] key.)

The signal send level can be selected from 0dB or the soft SW set value.

The signal send level is returned to the soft SW set value before execution of the mode after completion of the mode.

By entering the number and pressing the [START] key during execution, the signal kind can be changed.

| Item |           |
|------|-----------|
| 1    | NO SIGNAL |
| 2    | 11111     |
| 3    | 11110     |
| 4    | 00000     |
| 5    | 010101    |
| 6    | 00001     |

Note: Executable only when the FAX is installed.

SIMULATION 66-11  
300bps SIGNAL OUTPUT (LEVEL MAX). SELECT 1-6, AND PRESS START.  
1. NO SIGNAL  
2. 11111  
3. 11110  
4. 00000  
5. 010101  
6. 00001

66-12

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to send 300bps signals. (Signal send level: Set by soft SW) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Select the signal number with the 10-key, and press the [START] key. By setting the signal number, the specified signal is delivered to the line at the speed of 300bps. (The signal is continuously sent until the interruption command is provided by pressing the [CUSTOM SETTINGS] key.)

The signal send level can be selected from 0dB or the soft SW set value.

The signal send level is returned to the soft SW set value before execution of the mode after completion of the mode.

By entering the number and pressing the [START] key during execution, the signal kind can be changed.

| Item |           |
|------|-----------|
| 1    | NO SIGNAL |
| 2    | 11111     |
| 3    | 11110     |
| 4    | 00000     |
| 5    | 010101    |
| 6    | 00001     |

Note: Executable only when the FAX is installed.

SIMULATION 66-12  
300bps SIGNAL OUTPUT (SOFT SW.). SELECT 1-6, AND PRESS START.  
1. NO SIGNAL  
2. 11111  
3. 11110  
4. 00000  
5. 010101  
6. 00001

66-13

|                           |                                    |
|---------------------------|------------------------------------|
| <b>Purpose</b>            | Setting                            |
| <b>Function (Purpose)</b> | Used to register the dial numbers. |
| <b>Section</b>            | FAX                                |
| <b>Item</b>               | Operation                          |

#### Operation/procedure

Enter the number with the 10-key, [\*] key, and [#] key.

Press the [CLEAR] key to return to the initial state.

Press the [START] key to register the entered number.

Note: Executable only when the FAX is installed.

SIMULATION 66-13  
DIAL TEST NUMBER SETTING. INPUT NUMBER AND PRESS START.  
0-9 : [0-9], \*:[\*], #:[#]  
0123456789\*#01234567

66-14

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation check/test                              |
| <b>Function (Purpose)</b> | Used to perform the dial test. (10 PPS send test) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Operation   |

#### Operation/Procedure

1. Select the item with the 10-key, and press the [START] key.

2. Set the make time with the 10-key.

The dial is sent with the set value + 26ms.

The sending dial cannot be interrupted.

| Item        | Content                      | Setting range |
|-------------|------------------------------|---------------|
| 0 EXECUTE   | Execution                    | —             |
| 1 MAKE TIME | Dial pulse make time setting | 0-15          |

Note: Executable only when the FAX is installed.

SIMULATION 66-14  
DIAL TEST (10PPS). SELECT 0-1, AND PRESS START.  
0. EXECUTE  
1. MAKE TIME : 7 [+26ms]

66-15

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation check/test                              |
| <b>Function (Purpose)</b> | Used to perform the dial test. (20 PPS send test) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Operation   |

#### Operation/Procedure

1. Select the item with the 10-key, and press the [START] key.

2. Set the make time with the 10-key.

The dial is sent with the set value + 26ms.

The sending dial cannot be interrupted.

| Item        | Content                      | Setting range |
|-------------|------------------------------|---------------|
| 0 EXECUTE   | Execution                    | —             |
| 1 MAKE TIME | Dial pulse make time setting | 0-15          |

Note: Executable only when the FAX is installed.

SIMULATION 66-15  
DIAL TEST (20PPS). SELECT 0-1, AND PRESS START.  
0. EXECUTE  
1. MAKE TIME : 7 [+ 9ms]

66-16

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation check/test                                   |
| <b>Function (Purpose)</b> | Used to perform the dial test. (DTFM signal send test) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation  |

#### Operation/Procedure

1. Select the item with the 10-key, and press the [START] key.

2. Enter the set value with the 10-key.

The sending dial cannot be interrupted.

| Item            | Content               | Setting range |
|-----------------|-----------------------|---------------|
| 0 EXECUTE       | Execution             | —             |
| 1 HIGH (SW)     | High group            | 0-15          |
| 2 HIGH-LOW (SW) | High group, Low group | 0-15          |

3. Select the soft SW reflection.

| Item             | Content                              |
|------------------|--------------------------------------|
| 1 NO STORE TO SW | Not reflected.                       |
| 2 STORE TO SW    | Reflected. (Shift SW value changed.) |

Note: Executable only when the FAX is installed.

#### SIMULATION 66-16

DIAL TEST (DTMF). SELECT 0-2, AND PRESS START.

0. EXECUTE

1. HIGH (SW) : 7
2. HIGH-LOW (SW) : 7

1

#### 66-17

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation check/test  |
| <b>Function (Purpose)</b> | Used to check the DTFM signal send operation. (Signal send level: Max.) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Enter the DTFM signal (1 digit (1 to 9, 0, \*, #)) and press the [START] key.

When the [CUSTOM SETTINGS] key is pressed during execution, the simulation is terminated.

Note: Executable only when the FAX is installed.

#### SIMULATION 66-17

DTFM SIGNAL OUTPUT (LEVEL MAX). INPUT 0-9, \*, #, AND PRESS START.

#### 66-18

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation check/test   |
| <b>Function (Purpose)</b> | Used to check the DTFM signal send operation. (Signal send level: Set by soft SW.) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation  |

#### Operation/Procedure

Enter the DTFM signal (1 digit (1 to 9, 0, \*, #)) and press the [START] key.

When the [CUSTOM SETTINGS] key is pressed during execution, the simulation is terminated.

Note: Executable only when the FAX is installed.

#### SIMULATION 66-18

DTMF SIGNAL OUTPUT (SOFT SW.). INPUT 0-9, \*, #, AND PRESS START.

#### 66-19

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Back up                                       |
| <b>Function (Purpose)</b> | Used to write the SRAM data to the Flash ROM. |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Data  |

#### Operation/Procedure

Select "1: YES" with the 10-key, and press the [START] key. The data are backed up. (When "2: NO" is selected, the simulation is canceled.)

\* The AR-FX5 data cannot be written into the AR-FX7. If it is executed, data are initialized and deleted. In addition, the AR-FX7 data cannot be used in the AR-FX5.

Note: Executable only when the FAX is installed.

#### SIMULATION 66-19

SRAM BACK UP. (WRITE TO FLASH ROM) ARE YOU SURE ?

1. YES
2. NO

#### 66-20

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Back up                                       |
| <b>Function (Purpose)</b> | Used to write the Flash ROM data to the SRAM. |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Data  |

#### Operation/Procedure

Select "1: YES" with the 10-key, and press the [START] key. The Flash ROM data are read out and written into the SRAM. (When "2: NO" is selected, the simulation is canceled.)

\* The AR-FX5 data cannot be written into the AR-FX7. If it is executed, data are initialized and deleted. In addition, the AR-FX7 data cannot be used in the AR-FX5.

Note: Executable only when the FAX is installed.

#### SIMULATION 66-20

SRAM BACK UP. (READ FROM FLASH ROM) ARE YOU SURE ?

1. YES
2. NO

1

#### 66-21

|                           |                       |
|---------------------------|-----------------------|
| <b>Purpose</b>            | Check                 |
| <b>Function (Purpose)</b> | FAX information print |
| <b>Section</b>            | FAX                   |
| <b>Item</b>               | Data                  |

#### Operation/procedure

1. Select the item to be printed.
2. Press the [START] key.

The information of the selected item is printed.

| Item |              | Content  |
|------|--------------|--|
| 1    | USER SW.LIST | User setting list  |
| 2    | SOFT SW.LIST | Soft SW list   |
| 3    | SYSTEM ERROR | System error list<br>Used to print the system error log (error number and time).   |
| 4    | PROTOCOL     | Protocol error list<br>Regardless of soft SW38-1 status, the protocol monitor of the preceding communication is printed. (Printing is allowed at any time before starting the next communication.) For this operation, the protocol monitor of one communication is always buffered. |

Note: Executable only when the FAX is installed.

#### SIMULATION 66-21

FAX INFORMATION PRINT OUT. SELECT 1-4, AND PRESS START.

1. USER SW. LIST
2. SOFT SW. LIST
3. SYSTEM ERROR
4. PROTOCOL

0

#### 66-22

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting                                      |
| <b>Function (Purpose)</b> | Handset sound volume adjustment (Japan only) |
| <b>Section</b>            | FAX  |
| <b>Item</b>               | Operation                                    |

#### Operation/procedure

1. Select the set volume. (Max., Middle, Min.)
2. Press the [START] key.

Switch of 1, 2, and 3 can be made during execution of the simulation.

During execution of the simulation, sounds are generated.

Note: Executable only when the FAX is installed.

SIMULATION 66-22  
HANDSET VOLUME SETTING. SELECT 1-3, AND PRESS START.  
1. MAX  
2. MIDDLE  
3. MIN

2

66-24

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Data clear                                      |
| <b>Function (Purpose)</b> | Used to clear the FAST storage data. (SEC only) |
| <b>Section</b>            | FAX   |
| <b>Item</b>               | Data Initializing                               |

#### Operation/procedure

Select "1: YES" with the 10-key and press the [START] key. The FAST storage data are cleared. (When "2: NO" is selected, the simulation is canceled.)

Note: Executable only when the FAX is installed.

SIMULATION 66-24  
FAST MEMORY DATA CLEAR. ARE YOU SURE?  
1. YES  
2. NO

66-30

|                           |                          |
|---------------------------|--------------------------|
| <b>Purpose</b>            | Operation test/check     |
| <b>Function (Purpose)</b> | Used to set the TEL/LIU. |
| <b>Section</b>            | FAX                      |
| <b>Item</b>               | Operation                |

#### Operation/procedure

When the relay state of the polarity reverse relay, the handset hook switch, or the external telephone hook switch is changed, the content of change is displayed regardless of the soft SW setup (real time). The display of change is kept until an interruption command is supplied by pressing the [CUSTOM SETTINGS] key.

| Item | Notification contents |             |
|------|-----------------------|-------------|
|      | Signal low            | Signal high |
| HS2  | ON                    | OFF         |
| HS1  | ON                    | OFF         |
| RHS  | ON                    | OFF         |
| EXHS | ON                    | OFF         |

Note: Executable only when the FAX is installed.

SIMULATION 66-30  
TEL/LIU SENSOR CHECK.  
HS2 :\*\*\* HS1 :\*\*\* RHS :\*\*\* EXHS :\*\*\*

66-31

|                           |                          |
|---------------------------|--------------------------|
| <b>Purpose</b>            | Setting                  |
| <b>Function (Purpose)</b> | Used to set the TEL/LIU. |
| <b>Section</b>            | FAX                      |
| <b>Item</b>               | Operation                |

#### Operation/Procedure

1. Enter the set value. (Valid only 0 to 8)
2. The entered bit is alternatively switched between "0" and "1" and the target signal name is highlighted.
3. Press the [START] key to send the signal.

When the [CUSTUM SETTINGS] key is pressed, the output is terminated.

Note: Executable only when the FAX is installed.

SIMULATION 66-31  
TEL/LIU SETTING. INPUT 1-5. AND PRESS START.

1 2 3 4 5  
00001

1. C10N
2. 150VON
3. EC
4. S.
5. MSR.

66-32

|                           |                      |
|---------------------------|----------------------|
| <b>Purpose</b>            | Operation test/check |
| <b>Function (Purpose)</b> | Receive data check   |
| <b>Section</b>            | FAX                  |
| <b>Item</b>               | Operation            |

#### Operation/procedure

The fixed data received from the line are checked and the result is displayed.

When data are coincident, "OK" is displayed. When not, "NG" is displayed.

Note: Executable only when the FAX is installed.

SIMULATION 66-32  
RECEIVED DATA CHECK. CHECKING... (OK or NG)

66-33

|                           |                        |
|---------------------------|------------------------|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Signal detection check |
| <b>Section</b>            | FAX                    |
| <b>Item</b>               | Operation              |

#### Operation/Procedure

Signal detection is checked and the result is displayed.

Note: Executable only when the FAX is installed.

SIMULATION 66-33  
SIGNAL DETECT CHECK. SELECT 1-2, AND PRESS START  
1. CI, FNET  
2. CEG, CED, BT, DT, Flag, SDT, DTMF

1

66-34

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check                   |
| <b>Function (Purpose)</b> | Communication time measurement display |
| <b>Section</b>            | FAX                                    |
| <b>Item</b>               | Operation                              |

#### Operation/procedure

The send/receive test is performed, and the time required for send/receive of the image data in the test is measured and displayed.

|   |         |   |                    |
|---|---------|---|--------------------|
| Setup on the user side when executing communication |         | Communication means   | : Memory send      |
|   |         | Picture quality   | : Normal Character |
|   |         | Density   | : Lighter          |
|   |         | ECM   | : ON               |
|   |         | Sender information  | : OFF              |
| Measuring range                                     | Send    | From flag reception before sending of image data until sending of RCP frame     |                    |
|   | Receive | From flag reception before reception of image data until reception of RCP frame |                    |

|                       |   |
|-----------------------|---|
| Mode when measuring   | Used to make communication not in a simulation process but in the normal screen and measure the time. |
| How to check the time | Enter the simulation for communication time check and check the time.                                 |
| Measuring unit        | msec  |

When there are two or more send/receive operations of image data in one communication, only the time of the last send/receive data near the end is measured.

Note: Executable only when the FAX is installed.

SIMULATION 66-34  
COMMUNICATION TIME DISPLAY.  
\*\*:\*:\*:\*\*ms

66-37

|                           |                                 |
|---------------------------|---------------------------------|
| <b>Purpose</b>            | Adjustment/Setting/Check        |
| <b>Function (Purpose)</b> | Speaker sound volume adjustment |
| <b>Section</b>            | FAX                             |

#### Operation/procedure

The following test sound is delivered to the line and the speaker to adjust the sound kind and volume.

The send level to the line is the set value of soft SW.

The set values of the selected sound kind and volume are written to each soft SW.

##### 1. Sound kinds pattern

| Sound kinds (Test sound) |   | Sound volume set value |      |      |      |
|--------------------------|---|------------------------|------|------|------|
| RINGER                   | Call sound  | DEF.                   | LAR. | MED. | SMA. |
| LINE MONITO              | Line monitor sound (Test sound: communication signal sound) | DEF.                   | LAR. | MED. | SMA. |
| ON HOOK                  | On-hook (Test sound, communication signal sound)            | DEF.                   | LAR. | MED. | SMA. |
| SCAN FINISH              | Scan finish sound   | DEF.                   | LAR. | MED. | SMA. |
| TX/RX FINISH             | Communication finish sound                                  | DEF.                   | LAR. | MED. | SMA. |
| DTMF                     | DTFM send sound   | DEF.                   | LAR. | MED. | SMA. |

LAR: (MED. Value + 1)

MED: (SMA value +1) - (LAR value - 1)

SMA: 1 - (MED. Value + 1)

##### 2. Sound volume pattern

Note: Executable only when the FAX is installed.

SIMULATION 66-37  
SPEAKER VOLUME SETTING. SELECT 1-16, AND PRESS START.  
RINGER 1. DEF. : ■ 2. LAR. : ■ 3. MED. : ■ 4. SMA. : ■  
LINE MONITOR 5. DEF. : ■ 6. LAR. : ■ 7. MED. : ■ 8. SMA. : ■  
ON HOOK 9. DEF. : ■ 10. LAR. : ■ 11. MED. : ■ 12. SMA. : ■  
SCAN FINISH 13. DEF. : ■ 14. LAR. : ■ 15. MED. : ■ 16. SMA. : ■  
TX/RX FINISH 17. DEF. : ■ 18. LAR. : ■ 19. MED. : ■ 20. SMA. : ■  
DTMF 21. DEF. : ■ 22. LAR. : ■ 23. MED. : ■ 24. SMA. : ■

66-41

|                           |                          |
|---------------------------|--------------------------|
| <b>Purpose</b>            | Adjustment/Setting/Check |
| <b>Function (Purpose)</b> | CI signal check          |

#### Operation/procedure

When the [START] key is pressed, the call signal from CI pin is detected to deliver the call sound to the line and the speaker. The volume of call sound follows the soft SW.

Signal detection and delivery of pseudo-call sound at detection are executed until the interruption command is provided by pressing the [CUSTOM SETTINGS] key.

Note: Executable only when the FAX is installed.

SIMULATION 66-41  
CI SIGNAL DETECT CHECK. PRESS START

67

67-1

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Operation test/check   |
| <b>Function (Purpose)</b> | Used to execute read/write check of the RAM on the PCL board, and to display the result. (To be supported for MCU v00.45 or later) |
| <b>Section</b>            | Printer  |
| <b>Item</b>               | Operation  |

#### Operation/Procedure

Press the [START] key.

Read/write check of the RAM on the PCL board is performed and the result is displayed.

The presence of DIMM is detected. If there is no DIMM, "---" is displayed. If there is, read/write check is performed and the result is displayed.

The display of "---" is changed to "CHECKING," "OK," or "NG" according to the message number included in the continuation command.

When the simulation is completed normally, "COMPLETE" is displayed. (No display for abnormal completion.)

Since only the devices installed to the PCL board are checked when the simulation is started, the display may not be changed from "---." (No message is sent for an uninstalled device.)

#### Key operations on each display

(Initial display)

Pressing the [INTERRUPT] key shifts the display to the previous menu. Pressing the [CA] key leads to resetting. Pressing the [C] key, and the [CUSTOM SETTINGS] key is invalid. (Beep sound)

(Display during execution)

During execution, the [INTERRUPT] key, [C] key, and the [CA] key are invalid. (Beep sound). The [CUSTOM SETTINGS] key produces a valid sound only.

(Check end display)

After execution, the [INTERRUPT] key and the [C] key are invalid. (Beep sound). Pressing the [CA] key leads to resetting. The [CUSTOM SETTINGS] key produces a valid sound only.

After completion of the simulation, reset the machine.

SIMULATION 67-1  
RAM CHECK. PRESS START.  
ON BOARD : ---  
DIMM : ---

67-11

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Setting  |
| <b>Function (Purpose)</b> | Used to set the select-in signal of the Centro port. |
| <b>Section</b>            | Printer  |
| <b>Item</b>               | Operation  |

#### Operation/procedure

Enter the set value with the 10-key, and press the [START] key.

|               |     |
|---------------|-----|
| Setting range | 0-1 |
| Default       | 0   |

\* Execution of the simulation which performs communication with the PCL board is inhibited until Notice Page storage is completed. (Only when the serviceman call error occurs.)



\* In the other case than the serviceman call error, entering the simulation is inhibited during the system check operation is displayed.

Note: Executable only when the PCL is installed.

**SIMULATION 67-11**  
CENTRO SELECT IN SIGNAL SETTING. SELECT 0-1, AND  
PRESS START.  
0:ON  
1:OFF

67-14

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Flash ROM version up                              |
| <b>Function (Purpose)</b> | Used to check write/comparison of flash programs. |
| <b>Section</b>            | Printer   |
| <b>Item</b>               | Operation   |

#### Operation/procedure

1. Press the [START] key.  
"PLEASE SEND DATA" is displayed.
2. Data are sent from the PC (MS-DOS) by use of "fcopy" command (FCOPY: file name). (Refer the "[7] FLASH ROM VERSION UP PROCEDURE")

Used to overwrite and check the flash device while displaying its process status.

After completion, the result is displayed.

3. Press the [CA] key to cancel the simulation and reset.

(Flash Device)  
PROGRAM  
BOOTROM  
PS KANJI FONT  
ESC/P KANJI FONT  
OPTION FONT

(Processing state)  
RECEIVE  
ERASE  
WRITE  
VERIFY

\* Execution of the simulation which performs communication with the PCL board is inhibited until Notice Page storage is completed. (Only when the serviceman call error occurs.)

\* In the other case than the serviceman call error, entering the simulation is inhibited during the system check operation is displayed.

**SIMULATION 67-14**  
FLASH ROM PROGRAM WRITE CHECK/COMPARE CHECK.  
PRESS START.

67-15

|                           |   |
|---------------------------|---|
| <b>Purpose</b>            | Operation test/check  |
| <b>Function (Purpose)</b> | Used to check the validity of the ROM on the PCL board and the result is displayed. (To be supported for MCU v00.45 or later) |
| <b>Section</b>            | Printer   |
| <b>Item</b>               | Operation   |

#### Operation/procedure

Press the [START] key.

Each ROM on the PCL board is checked and the result is displayed.

The display of "---" is changed to "CHECKING," "OK," or "NG" according to the message number included in the continuation command.

When the simulation is completed normally, "COMPLETE" is displayed. (No display for abnormal completion.)

Since only the devices installed to the PCL board are checked when the simulation is started, the display may not be changed from "---." (No message is sent for an uninstalled device.)

#### Key operations on each display

(Initial display)

Pressing the [INTERRUPT] key shifts the display to the previous menu. Pressing the [CA] key leads to resetting. The [C] key and the [CUSTOM SETTINGS] key are invalid. (Beep sound).

(Execution display)

During execution, the [INTERRUPT] key, the [C] key, and the [CA] key are invalid. (Beep sound). Pressing the [CUSTOM SETTINGS] key produces a valid sound only.

(Check end display)

After execution, the [INTERRUPT] key and the [C] key are invalid. (Beep sound). Pressing the [CA] key leads to resetting. Pressing the [CUSTOM SETTINGS] key produces a valid sound only.

After completion of the simulation, reset the machine.

**SIMULATION 67-15**  
ROM CHECK. PRESS START.  
BOOT ROM : ---  
MT FONT : ---  
PROGRAM : ---  
ESC/P KANJI : ---  
PS KANJI : ---  
OPTION : ---

67-17

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Data clear   |
| <b>Function (Purpose)</b> | Used to clear the printer section setting. (NVRAM clear) |

#### Operation/procedure

1. Press the [START] key.  
The confirmation dialogue is displayed.
2. Select "1: YES" with the 10-key and press the [START] key.  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

If there is no abnormality after Clear operation, "COMPLETE" is displayed. If there is any abnormality, "ERROR" is displayed.

\* Execution of the simulation which performs communication with the PCL board is inhibited until Notice Page storage is completed. (Only when the serviceman call error occurs.)

\* In the other case than the serviceman call error, entering the simulation is inhibited during the system check operation is displayed.

Note: Executable only when the PCL is installed.

**SIMULATION 67-17**  
NVRAM CLEAR. PRESS START.

67-18

|                           |  |
|---------------------------|--|
| <b>Purpose</b>            | Data clear   |
| <b>Function (Purpose)</b> | Used to clear the data area for FLASH ROM Network Scanner Application. |

#### Operation/procedure

1. Press the [START] key.  
The confirmation dialogue is displayed.
2. Select "1: YES" with the 10-key and press the [START] key.  
1: YES (Cleared)  
2: NO (Not cleared) (Default)

If there is no abnormality after Clear operation, "COMPLETE" is displayed. If there is any abnormality, "ERROR" is displayed.

\* Execution of the simulation which performs communication with the PCL board is inhibited until Notice Page storage is completed. (Only when the serviceman call error occurs.)

\* In the other case than the serviceman call error, entering the simulation is inhibited during the system check operation is displayed.

Note: Executable only when the PCL is installed.

SIMULATION 67-18

FLASH ROM NETWORK SCANNER APPLICATION DATA  
CLEAR. PRESS START.

67-20

|                               |  |
|-------------------------------|--|
| <b>Function<br/>(Purpose)</b> | Used to check the network connection when the scanner option is installed. |
|-------------------------------|--|

**Operation/procedure**

The network scanner is checked.

1. Press the [START] key.  
"PLEASE SEND DATA" and "READY" are displayed. (When the PCL board is installed, it takes some time to display "READY.")
2. Boot "ftp" from MS-DOS.  
Data are sent from the PC by the put file name.

The process is displayed. Check the display.

|  |
|--|
| (TEST DATA)<br>TEST DATA<br><br>(Process status)<br>RECEIVE<br>TESTING |
|--|

After completion, the result is displayed.

When the simulation is completed normally, "COMPLETE" is displayed. (No display for abnormal completion.)

Pressing [CA] key cancels the simulation resets the operation.

- \* Execution of the simulation which performs communication with the PCL board is inhibited until Notice Page storage is completed. (Only when the serviceman call error occurs.)
- \* In the other case than the serviceman call error, entering the simulation is inhibited during the system check operation is displayed.

Note: Executable only when PCL and NIC are installed.

SIMULATION 67-20

NETWORK SCANNER TEST. PRESS START.



## [9] TROUBLE CODE LIST

### 1. List

| Trouble code |          | Trouble contents                                 | Trouble detection |
|--------------|----------|--|-------------------|
| Main code    | Sub code |  |                   |
| A0           | 01       | Security incompatibility error                   |                   |
| E1           | 00       | IMC board communication trouble                  | MCU               |
|              | 10       | IMC board trouble                                |                   |
|              | 11       | IMC ASIC error                                   |                   |
|              | 12       | IMC CODEC error                                  |                   |
|              | 13       | IMC board flash ROM error                        |                   |
|              | 14       | IMC board expanded memory module (DIMM) error    |                   |
|              | 15       | IMC board Page Memory error/SRAM error           |                   |
|              | 16       | IMC board image compression store memory error   |                   |
|              | 17       | IMC board smoothing IC error                     |                   |
|              | 80       | IMC PWB communication trouble (protocol)         |                   |
|              | 81       | IMC PWB communication trouble (Parity)           |                   |
|              | 82       | IMC PWB communication trouble (Overrun)          |                   |
|              | 84       | IMC PWB communication trouble (Framing)          |                   |
|              | 88       | IMC PWB communication trouble (Timeout)          |                   |
| E7           | 02       | LSU trouble                                      |                   |
|              | 10       | Shading trouble (black correction)               |                   |
|              | 11       | Shading trouble (white correction)               |                   |
|              | 12       | Shading trouble                                  |                   |
| F1           | 00       | Finisher communication trouble                   | FIN               |
|              | 01       | Finisher jogger shift trouble                    |                   |
|              | 06       | Finisher shift motor abnormality                 |                   |
|              | 08       | Finisher staple shift motor trouble              |                   |
|              | 11       | Pusher motor trouble                             |                   |
|              | 15       | Finisher elevator motor trouble                  |                   |
| F2           | 02       | Toner supply failure                             |                   |
|              | 04       | Identification error                             |                   |
|              |          | Model error                                      |                   |
|              |          | Type error                                       |                   |
|              |          | Destination error                                |                   |
|              |          | Data abnormality                                 |                   |
|              |          | Misc error                                       |                   |
| F5           | 02       | Copy lamp lighting abnormality                   |                   |
| F6           | 00       | MCU-FAX communication trouble                    | MCU               |
|              | 10       | FAX control PWB trouble                          |                   |
|              | 80       | FAX control PWB communication trouble (Protocol) |                   |
|              | 81       | FAX control PWB communication trouble (Parity)   |                   |
|              | 82       | FAX control PWB communication trouble (Over-run) |                   |
|              | 84       | FAX control PWB communication trouble (Framing)  |                   |
|              | 88       | FAX control PWB communication trouble (Timeout)  |                   |
|              | 99       | FAX control PWB destination error                |                   |

| Trouble code |          | Trouble contents  | Trouble detection |
|--------------|----------|---|-------------------|
| Main code    | Sub code |   |                   |
| F9           | 00       | MCU-PRT communication trouble                                       | MCU               |
|              | 10       | Printer PWB trouble   |                   |
|              | 80       | Printer PWB communication trouble (Protocol)                        |                   |
|              | 81       | Printer PWB communication trouble (Parity)                          |                   |
|              | 82       | Printer PWB communication trouble (Overrun)                         |                   |
|              | 84       | Printer PWB communication trouble (Framing)                         |                   |
|              | 88       | Printer PWB communication trouble (Timeout)                         |                   |
|              | 99       | Machine-PCL board language error                                    |                   |
| H2           | 00       | Main heater lamp thermistor open hard detection                     |                   |
|              | 01       | Sub heater lamp thermistor open hard detection                      |                   |
| H3           | 00       | Main heater lamp abnormally high temperature hard detection trouble |                   |
|              | 01       | Sub heater lamp abnormally high temperature hard detection trouble  |                   |
|              | 10       | Main heater lamp abnormally high temperature soft detection trouble |                   |
|              | 11       | Sub heater lamp abnormally high temperature soft detection trouble  |                   |
| H4           | 00       | Main heater lamp abnormally low temperature detection               |                   |
|              | 01       | Sub heater lamp abnormally low temperature detection                |                   |
|              | 20       | Main heater lamp abnormally low temperature detection               |                   |
|              | 21       | Sub heater lamp abnormally low temperature detection                |                   |
| H5           | 01       | 10 continuous POD1, POD2 or PPD2 JAM                                |                   |
| L1           | 00       | Scanner feed trouble  |                   |
| L3           | 00       | Scanner return trouble  |                   |
| L4           | 01       | Main motor trouble  |                   |
|              | 11       | Shifter motor trouble   |                   |
| L6           | 10       | Polygon motor trouble   |                   |
| L8           | 10       | Power abnormality detection trouble                                 |                   |
| U1           | 01       | FAX battery error   |                   |
|              | 02       | PANEL LOW battery error   |                   |
| U2           | 04       | EEPROM communication error  |                   |
|              | 20       | Machine speed code data error                                       |                   |
|              | 40       | CRUM chip communication error                                       |                   |
| U7           | 00       | RIC communication trouble   |                   |
| U9           | 00       | MCU-OPE communication trouble                                       | OPE               |
|              | 80       | Operation control PWB communication trouble (Protocol)              |                   |
|              | 81       | Operation control PWB communication trouble (Parity)                |                   |
|              | 82       | Operation control PWB communication trouble (Overrun)               |                   |
|              | 84       | Operation control PWB communication trouble (Framing)               |                   |
|              | 88       | Operation control PWB communication trouble (Time-out)              |                   |
|              | 99       | Operation panel language error                                      |                   |
|              |          |   |                   |
| EE           | EL       | Developer adjustment trouble (Over-toned abnormality)               |                   |
|              | EU       | Developer adjustment trouble (Under-toned abnormality)              |                   |
| PF           | 00       | RIC copy inhibit signal received                                    |                   |

## 2. Self diagnostics

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| A0           | 01       | Content            | Security incompatibility error   |
|              |          | Details            | When the PCL or the FAX board is installed, it does not match with compatible/incompatible setup of the MCU board security.                |
|              |          | Cause              | The security compatibility/incompatibility of the installed PCL or FAX board does not match with that of the MCU board.                    |
|              |          | Check and remedy   | Check the security compatibility/incompatibility of each board. Match the security compatibility/incompatibility of the boards.            |
| E1           | 00       | Content            | MCU-IMC communication trouble  |
|              |          | Details            | Communication establishment error/framing/parity/protocol error  |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure                                  |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.                    |
|              | 10       | Content            | IMC PWB trouble  |
|              |          | Details            | Communication trouble between MCU and IMC PWB  |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure                                  |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.                    |
|              | 11       | Content            | IMC board ASIC error   |
|              |          | Details            | ASIC abnormality on IMC board  |
|              |          | Cause              | IMC board abnormality  |
|              |          | Check and remedy   | Replace the IMC PWB.   |
|              | 12       | Content            | IMC board CODEC IC error   |
|              |          | Details            | CODEC IC (JBIG chip) abnormality on IMC board  |
|              |          | Cause              | IMC board abnormality  |
|              |          | Check and remedy   | Replace the IMC PWB.   |
|              | 13       | Remarks            | JBIG IC abnormality  |
|              |          | Content            | IMC board flash ROM error  |
|              |          | Details            | Flash ROM abnormality on IMC board   |
|              |          | Cause              | IMC board abnormality  |
|              |          | Check and remedy   | Replace the IMC PWB.<br>"When the program download is abnormally terminated, a error may occur. In this case, download the program again." |
|              |          | Remarks            | Program ROM abnormality  |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| E1           | 14       | Content            | IMC board expanded memory module (DIMM) error   |
|              |          | Details            | IMC extended compression memory module installation error<br>IMC extended compression memory access error   |
|              |          | Cause              | IMC expanded memory module installation trouble<br>IMC expanded memory module trouble<br>IMC expanded memory contact trouble<br>IMC board abnormality |
|              |          | Check and remedy   | Check installation of the expanded memory module. (Spec: Added to Slot 1.)<br>Replace the expanded memory module.<br>Replace the IMC PWB.             |
|              |          | Remarks            | Extend memory abnormality for compressed image store (DIMM module)  |
|              | 15       | Content            | IMC board Page Memory error/SRAM error  |
|              |          | Details            | IMC Page Memory Work SRAM abnormality   |
|              |          | Cause              | IMC board abnormality   |
|              |          | Check and remedy   | Replace the IMC PWB.  |
|              |          | Remarks            | Print Buffer Page Memory or Work SRAM abnormality   |
|              | 16       | Content            | IMC board compression image store memory error  |
|              |          | Details            | Access error of IMC standard compression memory   |
|              |          | Cause              | IMC board abnormality   |
|              |          | Check and remedy   | Replace the IMC PWB.  |
|              | 17       | Content            | IMC board smoothing IC error  |
|              |          | Details            | IMC smoothing IC abnormality  |
|              |          | Cause              | IMC board abnormality   |
|              |          | Check and remedy   | Replace the IMC PWB.  |
|              | 80       | Content            | IMC PWB communication trouble (protocol)  |
|              |          | Details            | Communication trouble between MCU and IMC PWB (Protocol error)  |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure   |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.                               |
|              | 81       | Content            | IMC PWB communication trouble (Parity)  |
|              |          | Details            | Communication trouble between MCU and printer IMC (Parity error)  |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure   |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.                               |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| E1           | 82       | Content            | IMC PWB communication trouble (Overrun)   |
|              |          | Details            | Communication trouble between MCU and IMC PWB (Overrun error)   |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure   |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.   |
|              | 84       | Content            | IMC PWB communication trouble (Framing)   |
|              |          | Details            | Communication trouble between MCU and IMC PWB (Framing error)   |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure   |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.   |
|              | 88       | Content            | IMC PWB communication trouble (Time-out)  |
|              |          | Details            | Communication trouble between MCU and IMC PWB (Time-out error)  |
|              |          | Cause              | IMC PWB connector disconnection<br>Motherboard connector pin breakage<br>IMC PWB ROM defect, data failure   |
|              |          | Check and remedy   | Check the connectors of the IMC PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check the ROM of the IMC PWB.   |
| E7           | 02       | Content            | LSU trouble   |
|              |          | Details            | BD signal from LSU is not detected in a constant cycle. (Kept OFF or ON)  |
|              |          | Cause              | LSU connector or LSU inside harness trouble or disconnection<br>Polygon motor rotation abnormality<br>Laser does not illuminate.<br>MCU PWB failure   |
|              |          | Check and remedy   | Check for disconnection of the LSU connector.<br>Check the LSU operation with SIM 61-1.<br>Check that the polygon motor rotates normally.<br>Check laser LED lighting.<br>LSU replacement<br>Replace the MCU PWB. |
|              | 10       | Content            | Shading trouble (black correction)  |
|              |          | Details            | CCD black reference plate scan level abnormality when the copy lamp turns off.  |
|              |          | Cause              | Flat cable installation failure to CCD unit<br>CCD unit error   |
|              |          | Check and remedy   | Check flat cable installation to the CCD unit.<br>Check CCD unit.   |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| E7           | 11       | Content            | Shading trouble (white correction)  |
|              |          | Details            | Improper CCD white reference plate reading level for copy lamp lighting   |
|              |          | Cause              | Flat cable installation failure to CCD unit<br>"Dirt on the mirror, lens, and reference white plate"<br>Copy lamp operation error<br>CCD unit abnormality<br>MCU PWB abnormality (Occurred in the SPF scan position.) |
|              |          | Check and remedy   | "Clean the mirror, the lens, and the reference white plate."<br>Check the copy lamp light quantity and its operation. (SIM 5-3)<br>Check CCD unit.<br>Check MCU PWB.  |
|              | 12       | Content            | Shading trouble   |
|              |          | Details            | White correction is not completed in the specified number of times.   |
|              |          | Cause              | Flat cable installation failure to CCD unit<br>"Dirt on the mirror, lens, and reference white plate"<br>Copy lamp lighting trouble<br>CCD unit abnormality<br>MCU PWB abnormality                                     |
|              |          | Check and remedy   | "Clean the mirror, the lens, and the reference white plate."<br>Check the copy lamp light quantity and its operation. (SIM 5-3)<br>Check CCD unit.<br>Check MCU PWB.  |
|              | F1       | Content            | Finisher communication trouble  |
|              |          | Details            | Communication line test error occurs when power is turned on or after the exit of a simulation mode.<br>Error in Finisher communication   |
|              |          | Cause              | Connection trouble or disconnection of the connector and harness between the body and the finisher.<br>Finisher control PWB trouble<br>Control PWB failure<br>Malfunction by noises                                   |
|              |          | Check and remedy   | Turn off/of the power to cancel the trouble.<br>Check connector/harness of communication line<br>Replace the finisher control PWB.  |
|              | 01       | Content            | Side guide plated home position error   |
|              |          | Details            | The side guide plate cannot return to the home position.  |
|              |          | Cause              | Side guide plate drive motor abnormality<br>Side guide plate home position sensor abnormality<br>Finisher PWB abnormality   |
|              |          | Check and remedy   | Use SIM3-3-1 to check the side guide plate motor operation.   |
|              | 06       | Content            | Offset motor trouble  |
|              |          | Details            | When the offset motor of the finisher is driven it does not reach the specified position.   |
|              |          | Cause              | Offset motor abnormality<br>Offset motor origin sensor abnormality<br>Finisher PWB abnormality  |
|              |          | Check and remedy   | Use SIM 3-3-6 to check the offset motor operation.  |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| F1           | 08       | Content            | Staple motor error   |
|              |          | Details            | The staple motor cannot return to the home position.   |
|              |          | Cause              | Staple motor abnormality<br>Staple motor home position sensor abnormality<br>Staple unit abnormality<br>Finisher PWB abnormality |
|              |          | Check and remedy   | Use SIM 3-3-7 to check the staple motor operation.   |
|              | 11       | Content            | Rear edge plate home position error  |
|              |          | Details            | The rear edge plate cannot return to the home position.  |
|              |          | Cause              | Rear edge plate drive motor abnormality<br>Side guide plate home position sensor abnormality<br>Finisher PWB abnormality         |
|              |          | Check and remedy   | Use SIM 3-3-2 to check the rear edge plate motor operation.  |
|              | 15       | Content            | Finisher lift-up motor trouble   |
|              |          | Details            | The finisher lift-up motor does not reach the specified position.  |
|              |          | Cause              | Lift-up motor abnormality<br>Lift-up motor upper limit sensor abnormality<br>Finisher PWB abnormality                            |
|              |          | Check and remedy   | Use SIM 3-3-5 to check the lift-up motor operation.  |
| F2           | 02       | Content            | Toner supply failure   |
|              |          | Details            | The value judged from the actual toner supply hysteresis differs greatly from the toner sensor value.                            |
|              |          | Cause              | Developing unit trouble<br>Toner supply abnormality caused by installation of unpacked toner cartridge                           |
|              |          | Check and remedy   | Replace the developing unit<br>Use SIM 25-1 to perform DV stirring.  |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| F2           | 04       | Content            | Identification error   |
|              |          |                    | Model error  |
|              |          |                    | Type error   |
|              |          |                    | Destination error  |
|              |          |                    | Data abnormality   |
|              |          |                    | Misc error   |
|              |          | Details            | Identification error<br>When the CRUM trademark differs.<br>When the CRUM company code differs.  |
|              |          |                    | Model error<br>When the boot program model code does not match with the CRUM model information.  |
|              |          |                    | Type error<br>When the CRUM type is other than [Genuine/Conversion/Production rotation].   |
|              |          |                    | Destination error<br>The destination of the body differs from that of the CRUM.  |
|              |          |                    | Data abnormality<br>The initial check information includes an erroneous value.<br>When the max. toner supply time is 00:<br>When the print hard stop is 00:  |
|              |          |                    | Cause<br>CRUM chip failure<br>Erroneous developing unit  |
|              |          | Check and remedy   | Replace the CRUM chip.<br>Replace the developing unit  |
|              |          |                    |  |
| F5           | 02       | Content            | Copy lamp lighting abnormality   |
|              |          | Details            | The copy lamp does not light up.   |
|              |          | Cause              | Copy lamp error<br>Copy lamp harness abnormality<br>CCD PWB harness abnormality  |
|              |          | Check and remedy   | Check the copy lamp (SIM 5-3)<br>When the lamp lights:<br>Check the harnesses and connectors between the CCD unit and the MCU PWB.<br>When the lamp does not light:<br>Check the harness and connector between the copy lamp and the MCU PWB.<br>Replace the copy lamp unit.<br>Replace the MCU PWB. |
|              |          | Remarks            | Copy lamp disconnection<br>Cable is not attached.  |
|              |          |                    |  |
| F6           | 00       | Content            | MCU-FAX communication trouble  |
|              |          | Details            | Communication establishment error/<br>framing/parity/protocol error  |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error   |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.  |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| F6           | 10       | Content            | FAX control PWB trouble  |
|              |          | Details            | Communication trouble between MCU and FAX control PWB  |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error<br>IC on FAX PWB causes abnormality |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.<br>Replace the FAX PWB.  |
|              | 80       | Content            | FAX control PWB communication trouble (Protocol)   |
|              |          | Details            | Communication trouble between MCU and FAX control PWB (Protocol error)   |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error                                     |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.  |
|              | 81       | Content            | FAX control PWB communication trouble (Parity)   |
|              |          | Details            | Communication trouble between MCU and FAX control PWB (Parity error)   |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error                                     |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.  |
|              | 82       | Content            | FAX control PWB communication trouble (Over-run)   |
|              |          | Details            | Communication trouble between MCU and FAX control PWB (Overrun error)  |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error                                     |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.  |
|              | 84       | Content            | FAX control PWB communication trouble (Framing)  |
|              |          | Details            | Communication trouble between MCU and FAX control PWB (Framing error)  |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error                                     |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.  |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| F6           | 88       | Content            | FAX control PWB communication trouble (Timeout)  |
|              |          | Details            | Communication trouble between MCU and FAX control PWB (Timeout error)  |
|              |          | Cause              | FAX control PWB connector disconnection<br>Defective harness between FAX control PWB and MCU PWB<br>Motherboard connector pin breakage<br>FAX control PWB ROM error/Data error   |
|              |          | Check and remedy   | Check connector/harness of FAX control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check FAX control PWB ROM.  |
|              | 99       | Content            | FAX control PWB destination error  |
|              |          | Details            | The machine destination setup does not coincide with the FAX board destination setup.  |
|              |          | Cause              | The machine destination setup (Sim 26-6) does not coincide with the FAX board setup  |
|              |          | Check and remedy   | Check the variety of FAX LIU PWB.<br>Check the machine destination setup (Sim 22-6) and FAX country code (Soft SW table).  |
|              | 00       | Content            | MCU-PRT communication trouble  |
|              |          | Details            | Communication establishment error/framing/parity/protocol error  |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |
| F9           | 10       | Content            | Printer PWB trouble  |
|              |          | Details            | Communication trouble between MCU and printer PWB  |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |
|              | 80       | Content            | Printer PWB communication trouble (Protocol)   |
|              |          | Details            | Communication trouble between MCU and printer PWB (Protocol error)   |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| F9           | 81       | Content            | Printer PWB communication trouble (Parity)   |
|              |          | Details            | Communication trouble between MCU and printer PWB (Parity error)   |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |
|              |          |                    |  |
|              | 82       | Content            | Printer PWB communication trouble (Overrun)  |
|              |          | Details            | Communication trouble between MCU and printer PWB (Overrun error)  |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |
|              |          |                    |  |
|              | 84       | Content            | Printer PWB communication trouble (Framing)  |
|              |          | Details            | Communication trouble between MCU and printer PWB (Framing error)  |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |
|              |          |                    |  |
|              | 88       | Content            | Printer PWB communication trouble (Timeout)  |
|              |          | Details            | Communication trouble between MCU and printer PWB (Timeout error)  |
|              |          | Cause              | Printer PWB connector disconnection<br>Harness trouble between the printer PWB and the MCU PWB<br>Motherboard connector pin breakage<br>Printer PWB ROM trouble/Data disturbance |
|              |          | Check and remedy   | Check the connectors and harness of the printer PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on printer PWB.  |
|              |          |                    |  |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| F9           | 99       | Content            | Machine-PCL board language error  |
|              |          | Details            | The machine language setup does not coincide with the PCL board language setup.   |
|              |          | Cause              | PCL board connection error<br>SIM setup error   |
|              |          | Check and remedy   | Check the firmware of the PCL board and the combination of the panel screen data, and download the correct version, if necessary.<br>Check the machine language information. (Machine language setup: SIM 26-22)  |
|              |          |                    |   |
| H2           | 00       | Content            | Main heater lamp thermistor open hard detection   |
|              |          | Details            | Main heater lamp thermistor open detection<br>Fusing unit not installed   |
|              |          | Cause              | Thermistor defect<br>Control PWB failure<br>Fusing section connector contact failure<br>Fusing unit not installed   |
|              |          | Check and remedy   | Check the harness and the connector of the thermistor and the MCU.<br>Clear the display of self-diagnostics with SIM 14.  |
|              |          | Remarks            | Thermistor open   |
|              |          |                    |   |
|              | 01       | Content            | Sub heater lamp thermistor open hard detection  |
|              |          | Details            | Sub heater lamp thermistor open detection<br>Fusing unit not installed  |
|              |          | Cause              | Thermistor defect<br>Control PWB failure<br>Fusing section connector contact failure<br>Fusing unit not installed   |
|              |          | Check and remedy   | Check the harness and the connector of the thermistor and the MCU.<br>Clear the display of self-diagnostics with SIM 14.  |
|              |          | Remarks            | Thermistor open   |
|              |          |                    |   |
| H3           | 00       | Content            | Main heater lamp abnormally high temperature hard detection trouble   |
|              |          | Details            | The fusing main heater thermistor causes abnormally high temperature.   |
|              |          | Cause              | Main heater lamp thermistor defect<br>Control PWB failure<br>Fusing section connector contact failure   |
|              |          | Check and remedy   | Check the main heater lamp blinking with SIM 5-2-1.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>If lamp lights and stays lit:<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14. |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| H3           | 01       | Content            | Sub heater lamp abnormally high temperature hard detection trouble  |
|              |          | Details            | The fusing sub heater thermistor causes abnormally high temperature.  |
|              |          | Cause              | Sub heater lamp<br>Thermistor defect<br>Control PWB failure<br>Fusing section connector contact failure   |
|              |          | Check and remedy   | Check the sub heater lamp blinking with SIM 5-2-2.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>If lamp lights and stays lit:<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14.  |
| H3           | 10       | Content            | Main heater lamp abnormally high temperature soft detection trouble   |
|              |          | Details            | A/D value the fusing main heater lamp thermistor causes abnormally high temperature (over 230°C).   |
|              |          | Cause              | Main heater lamp thermistor defect<br>Control PWB failure<br>Fusing section connector contact failure   |
|              |          | Check and remedy   | Check the main heater lamp blinking with SIM 5-2-1.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>If lamp lights and stays lit:<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14. |
|              | 11       | Content            | Sub heater lamp abnormally high temperature soft detection trouble  |
|              |          | Details            | A/D value the fusing sub heater lamp thermistor causes abnormally high temperature (over 230°C).  |
|              |          | Cause              | Sub heater lamp thermistor defect<br>Control PWB failure<br>Fusing section connector contact failure  |
|              |          | Check and remedy   | Check the sub heater lamp blinking with SIM 5-2-2.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>If lamp lights and stays lit:<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14.  |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| H4           | 00       | Content            | Main heater lamp abnormally low temperature detection   |
|              |          | Details            | The setup temperature (about 90°C) is not reached within the specified time (about 17sec) from turning on the power ON SW. (When the temperature of main heater lamp thermistor falls below 140°C in the standby mode or printing.)<br>Whether temperature of main heater lamp thermistor falls below 50°C in the pre-heat mode.  |
|              |          | Cause              | Main heater lamp thermistor defect<br>Main heater lamp failure<br>Main thermostat failure<br>Control PWB failure  |
|              |          | Check and remedy   | Check the heater lamp blinking with SIM 5-2.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>When the lamp does not light:<br>Check for disconnection of the heater lamp and thermostat.<br>Check the interlock switch.<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14.       |
|              | 01       | Content            | Sub heater lamp abnormally low temperature detection  |
|              |          | Details            | The setup temperature (about 90°C) is not reached within the specified time (about 17sec) from turning on the power ON SW. (When the temperature of sub heater thermistor falls below 140°C in the standby mode or printing.)<br>Whether temperature of sub heater lamp thermistor falls below 50°C in the pre-heat mode.   |
|              |          | Cause              | Sub heater lamp thermistor defect<br>Sub heater lamp failure<br>Sub thermostat failure<br>Control PWB failure   |
|              |          | Check and remedy   | Check the sub heater lamp blinking with SIM 5-2-2.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>When the lamp does not light:<br>Check for disconnection of the heater lamp and thermostat.<br>Check the interlock switch.<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14. |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| H4           | 20       | Content            | Main heater lamp abnormally low temperature detection   |
|              |          | Details            | The setup temperature (about -25°C: Sim 43-1-1) is not reached within the specified time (about 32sec) from turning on the power ON SW.<br>(When the temperature falls below 140°C in the standby mode.)  |
|              |          | Cause              | Main heater thermistor defect<br>Main heater lamp failure<br>Main thermostat failure<br>Control PWB failure   |
|              |          | Check and remedy   | Check the main heater lamp blinking with SIM 5-2.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>When the lamp does not light:<br>Check for disconnection of the heater lamp and thermostat.<br>Check the interlock switch.<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14.  |
|              |          |                    |   |
|              | 21       | Content            | Sub heater lamp abnormally low temperature detection  |
|              |          | Details            | The setup temperature (about -25°C: Sim 43-1-1) is not reached within the specified time (about 32sec) from turning on the power ON SW.<br>(When the temperature falls below 140°C in the standby mode.)  |
|              |          | Cause              | Sub heater thermistor defect<br>Sub heater lamp failure<br>Sub thermostat failure<br>Control PWB failure  |
|              |          | Check and remedy   | Check the sub heater lamp blinking with SIM 5-2-2.<br>When the lamp blinks normally:<br>Check the thermistor and the harness.<br>Check the MCU PWB thermistor input circuit.<br>When the lamp does not light:<br>Check for disconnection of the heater lamp and thermostat.<br>Check the interlock switch.<br>Check the power PWB and the MCU PWB lamp control circuit.<br>Clear the display of self-diagnostics with SIM 14. |
|              |          |                    |   |
| H5           | 01       | Content            | 10 continuous POD1, POD2 or PPD2 JAM  |
|              |          | Details            | POD1, POD2, PPD2 JAM was detected 10 continuous times from turning on the power ON.   |
|              |          | Cause              | The fusing JAM is not completely removed. (Jam paper remains.)<br>POD1, POD2, PPD2 sensor breakdown or harness connection trouble<br>Fusing unit installation failure   |
|              |          | Check and remedy   | Check for jam paper in the fusing section. (paper winding, etc.)<br>Check fusing unit installation.<br>Check the POD1, POD2 or PPD2 sensor.<br>Clear the trouble with SIM 14.   |
|              |          |                    |   |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| L1           | 00       | Content            | Scanner feed trouble   |
|              |          | Details            | Scanner feed is not completed within the specified time.   |
|              |          | Cause              | Mirror unit defect<br>Scanner wire disconnection<br>Origin detection sensor error<br>Mirror motor harness abnormality  |
|              |          | Check and remedy   | Check the scanning operation with SIM 1-1.<br>Mirror base feed trouble<br>Check for disconnection of the scanner wire.<br>Check the harness and connector between the mirror motor and the MCU PWB.<br>Replace the mirror unit.<br>Replace the MCU PWB.<br>When the mirror feeds:<br>Check the mirror home position sensor with SIM 1-2.   |
| L3           | 00       | Content            | Scanner return trouble   |
|              |          | Details            | Scanner return is not completed within the specified time.<br>"When OC copying with the mirror at the home position, the mirror is not in the home position."  |
|              |          | Cause              | Mirror unit defect<br>The scanner wire is disconnected.<br>Origin detection sensor error<br>Mirror motor harness abnormality   |
|              |          | Check and remedy   | Check the scanning operation with SIM 1-1.<br>Mirror base return trouble<br>Check for disconnection of the scanner wire.<br>Check the harness and connector between the mirror motor and the MCU PWB.<br>Replace the mirror unit.<br>Replace the MCU PWB.<br>When the mirror feeds:<br>Check the mirror home position sensor with SIM 1-2. |
| L4           | 01       | Content            | Main motor trouble   |
|              |          | Details            | The main motor does not rotate.<br>The motor lock signal is detected for 1sec or more after the main motor rotates.<br>The motor lock signal is detected for 1sec during rotation of the main motor.   |
|              |          | Cause              | Main motor defect<br>Main motor connection, harness trouble or disconnection<br>MCU PWB failure  |
|              |          | Check and remedy   | Check the main motor operation with SIM 25-1.<br>Check connection of the main motor harness and connector.<br>Replace the main motor.<br>Replace the MCU PWB.  |



| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| L4           | 11       | Content            | Shifter motor trouble   |
|              |          | Details            | The shifter home position detection signal is not detected when the shifter is operating.   |
|              |          | Cause              | Shifter motor trouble or harness connection trouble and disconnection<br>Shifter home position sensor trouble   |
|              |          | Check and remedy   | Check the shifter motor operation with SIM 3-11.<br>Check connection of the shifter motor harness/connector.<br>Replace the shifter motor.<br>Replace the MCU PWB.  |
| L6           | 10       | Content            | Polygon motor lock trouble  |
|              |          | Details            | The polygon motor does not rotate.<br>The motor lock signal is detected for 6sec or more after the polygon motor rotates.<br>The motor lock signal is detected for 1sec during rotation of the polygon motor. |
|              |          | Cause              | Polygon motor unit failure<br>Polygon motor connection, harness trouble or disconnection<br>MCU PWB failure   |
|              |          | Check and remedy   | Check the polygon motor operation with SIM 61-1.<br>Check connector/harness of polygon motor<br>Replace the polygon motor.<br>Replace the MCU PWB.  |
| L8           | 10       | Content            | Power abnormality detection trouble   |
|              |          | Details            | The power status monitoring signal keeps power OFF state after passing the specified time (2sec).   |
|              |          | Cause              | Circuit around the power status monitoring signal failure.  |
|              |          | Check and remedy   | Check whether power status monitoring signal on MCU PWB is OPEN or not.<br>Replace MCU PWB.   |
| U1           | 01       | Content            | FAX battery error   |
|              |          | Details            | The SRAM backup battery voltage on FAX PWB falls.   |
|              |          | Cause              | The SRAM backup battery voltage on FAX PWB falls.   |
|              |          | Check and remedy   | Check voltage of the SRAM back up battery.<br>Replace the battery.  |
|              | 02       | Content            | PANEL LOW battery error   |
|              |          | Details            | The voltage of the panel clock function battery falls.  |
|              |          | Cause              | The voltage of the panel clock function battery falls.  |
|              |          | Check and remedy   | Check voltage of panel clock function battery.<br>Replace the battery.  |
| U2           | 04       | Content            | EEPROM communication error  |
|              |          | Details            | MCU PWB EEPROM access circuit failure   |
|              |          | Cause              | EEPROM defective<br>ICU PWB EEPROM access circuit failure   |
|              |          | Check and remedy   | Check that the EEPROM is properly set.<br>Clear trouble with SIM 16.<br>Replace the MCU PWB.  |
|              |          | Remarks            | EEPROM abnormality  |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| U2           | 20       | Content            | Machine speed code data error   |
|              |          | Details            | The machine (Boot) speed information is not identical to the model code speed information.  |
|              |          | Cause              | EEPROM defective<br>SIM operation error   |
|              |          | Check and remedy   | Check that the machine set with SIM 26-57 is identical to the model information.  |
|              |          | Remarks            | When the boot program speed code does not match with the body model information.  |
|              | 40       | Content            | CRUM chip communication error   |
|              |          | Details            | Error in MCU-CRUM chip communication  |
|              |          | Cause              | CRUM chip failure<br>Developing unit contact trouble<br>MCU PWB failure   |
|              |          | Check and remedy   | Replace the CRUM chip.<br>Check installation of the developing unit.<br>Clear the trouble with SIM 16.<br>Replace the MCU PWB.                              |
|              |          | Remarks            | CRUM communication error  |
| U7           | 00       | Content            | RIC communication trouble   |
|              |          | Details            | Error in communication with RIC<br>Error in communication test after turning on the power or canceling SIM.   |
|              |          | Cause              | Connector harness contact trouble or disconnection<br>RIC control PWB trouble<br>MCU PWB failure<br>Malfunction by noises                                   |
|              |          | Check and remedy   | Check the communication cable, connectors from the RIC box to the main body.  |
|              |          |                    |   |
| U9           | 00       | Content            | MCU-OPE communication trouble   |
|              |          | Details            | Communication establishment error/framing/parity/protocol error   |
|              |          | Cause              | Operation control PWB connector disconnection<br>Operation control PWB MCU PWB harness failure  |
|              |          | Check and remedy   | Check the connectors and harness of the operation control PWB and MCU PWB.<br>Check the grounding of the copier.<br>Check ROM on the operation control PWB. |
|              | 80       | Content            | Operation control PWB communication trouble (Protocol)  |
|              |          | Details            | Communication trouble between MCU and the operation control PWB (Protocol error)  |
|              |          | Cause              | Operation control PWB connector disconnection<br>Operation control PWB MCU PWB harness failure  |
|              |          | Check and remedy   | Check the connectors and harness of the operation control PWB and MCU PWB.<br>Check the grounding of the copier.  |

| Trouble code |          | Details of trouble |  |
|--------------|----------|--------------------|--|
| Main code    | Sub code |                    |  |
| U9           | 81       | Content            | Operation control PWB communication trouble (Parity)   |
|              |          | Details            | Communication trouble between MCU and the operation control PWB (Parity error)   |
|              |          | Cause              | Operation control PWB connector disconnection<br>Operation control PWB MCU PWB harness failure                             |
|              |          | Check and remedy   | Check the connectors and harness of the operation control PWB and MCU PWB. Check the grounding of the copier.              |
|              | 82       | Content            | Operation control PWB communication trouble (Overrun)  |
|              |          | Details            | Communication trouble between MCU and the operation control PWB (Overrun error)  |
|              |          | Cause              | Operation control PWB connector disconnection<br>Operation control PWB MCU PWB harness failure                             |
|              |          | Check and remedy   | Check the connectors and harness of the operation control PWB and MCU PWB. Check the grounding of the copier.              |
| U9           | 84       | Content            | Operation control PWB communication trouble (Framing)  |
|              |          | Details            | Communication trouble between MCU and the operation control PWB (Framing error)  |
|              |          | Cause              | Operation control PWB connector disconnection<br>Operation control PWB MCU PWB harness failure                             |
|              |          | Check and remedy   | Check the connectors and harness of the operation control PWB and MCU PWB. Check the grounding of the copier.              |
|              | 88       | Content            | Operation control PWB communication trouble (Time-out)   |
|              |          | Details            | Communication trouble between MCU and the operation PWB (Time-out error)   |
|              |          | Cause              | Operation control PWB connector disconnection<br>Operation control PWB MCU PWB harness failure                             |
|              |          | Check and remedy   | Check the connectors and harness of the operation control PWB and MCU PWB. Check the grounding of the copier.              |
|              | 99       | Content            | Operation panel destination error  |
|              |          | Details            | An error occurred in checking the destination of the operation panel and the main body.                                    |
|              |          | Cause              | Erroneous connection the operation panel unit<br>SIM setup error   |
|              |          | Check and remedy   | Check the destination information of the operation panel unit and the MCU. (Use SIM 26-6 for the destination of the body.) |

| Trouble code |          | Details of trouble |   |
|--------------|----------|--------------------|---|
| Main code    | Sub code |                    |   |
| EE           | EL       | Content            | Developer adjustment trouble (Over-toned abnormality)   |
|              |          | Details            | An abnormality occurred in execution of automatic developer adjustment. Sample data was detected over-toner.        |
|              |          | Cause              | Toner concentration sensor abnormality<br>Toner concentration trouble<br>Developing unit trouble<br>MCU PWB failure |
|              |          | Check and remedy   | Use SIM 25-2 to perform the auto developer adjustment.  |
|              | EU       | Content            | Developer adjustment trouble (Under-toned abnormality)  |
|              |          | Details            | An abnormality occurred in execution of automatic developer adjustment. Sample data was detected under-toner.       |
|              |          | Cause              | Toner concentration sensor abnormality<br>Toner concentration trouble<br>Developing unit trouble<br>MCU PWB failure |
|              |          | Check and remedy   | Use SIM 25-2 to perform the auto developer adjustment.  |
| PF           | 00       | Content            | RIC communication error   |
|              |          | Details            | The copy inhibit command from RIC is received.  |
|              |          | Cause              | Judged by the host.   |
|              |          | Check and remedy   | Inform to the host.   |

# [10] DISASSEMBLY, ASSEMBLY AND MAINTENANCE

## 1. Maintenance table

×: Check (Check, clean, replace or adjust according to necessity.)

○: Cleaning ▲: Replace ☆: Lubricate

| Unit           | Parts                                    | 75k | 150k | 225k | 300k | 375k | 450k | Note  |
|----------------|--|-----|------|------|------|------|------|---|
| Process unit   | Drum                                     | ▲   | ▲    | ▲    | ▲    | ▲    | ▲    |   |
|                | Cleaning blade                           | ▲   | ▲    | ▲    | ▲    | ▲    | ▲    |   |
|                | Seal F/R                                 | ×   | ×    | ×    | ×    | ×    | ×    |   |
|                | Drum frame unit                          | ×   | ×    | ▲    | ×    | ×    | ▲    |   |
|                | MC unit                                  | ▲   | ▲    | ▲    | ▲    | ▲    | ▲    | MC unit supply only<br>(Individual parts in MC unit can not be supplied.)                           |
|                | Separation pawl unit                     | ×   | ▲    | ×    | ▲    | ×    | ▲    | Separation pawl unit supply only<br>(Individual parts in separation pawl unit can not be supplied.) |
| Star ring      | Star ring                                | ×   | ×    | ×    | ×    | ×    | ×    |   |
| DV unit        | Developer                                | ▲   | ▲    | ▲    | ▲    | ▲    | ▲    |   |
|                | DV seal                                  | ×   | ▲    | ×    | ▲    | ×    | ▲    |   |
|                | DV side seal N                           | ×   | ▲    | ×    | ▲    | ×    | ▲    |   |
|                | DV side seal N2                          | ×   | ▲    | ×    | ▲    | ×    | ▲    |   |
|                | DV side mylar                            | ×   | ▲    | ×    | ▲    | ×    | ▲    |   |
|                | DV moquette                              | ×   | ×    | ×    | ×    | ×    | ×    |   |
|                | Toner sensor                             | ×   | ×    | ×    | ×    | ×    | ×    |   |
|                |  |     |      |      |      |      |      |   |
| Fusing unit    | Upper heat roller                        | ○   | ▲    | ○    | ▲    | ○    | ▲    |   |
|                | Lower heat roller                        | ○   | ○    | ○    | ▲    | ○    | ○    |   |
|                | Upper separation pawl                    | ○   | ▲    | ○    | ▲    | ○    | ▲    |   |
|                | Upper cleaning Pat                       | ×   | ▲    | ×    | ▲    | ×    | ▲    |   |
|                | Lower separation pawl                    | ○   | ○    | ○    | ▲    | ○    | ○    |   |
|                | Thermistor                               | ○   | ○    | ○    | ○    | ○    | ○    |   |
|                | Upper roller gear                        | ☆   | ▲    | ☆    | ▲    | ☆    | ▲    |   |
|                | Upper roller bush                        | ×   | ▲    | ×    | ▲    | ×    | ▲    |   |
|                | Lower heat roller bearing                | ×   | ×    | ×    | ▲    | ×    | ×    |   |
|                | Paper guide                              | ○   | ○    | ○    | ○    | ○    | ○    |   |
| Paper feed     | Pickup roller (Multi bypass tray)        | ×   | ×    | ×    | ×    | ×    | ×    | Changing criteria for parts: 100k   |
|                | Paper feeding sheet (Multi bypass tray)  | ×   | ×    | ×    | ×    | ×    | ×    | Changing criteria for parts: 100k   |
|                | Pickup roller (500 sheets tray)          | ×   | ×    | ×    | ×    | ×    | ×    | Changing criteria for parts: 100k   |
|                | Paper feeding sheet (500 sheets tray)    | ×   | ×    | ×    | ×    | ×    | ×    | Changing criteria for parts: 100k   |
|                | Pickup roller and feed roller (SPF/RSPF) | ×   | ×    | ×    | ×    | ×    | ×    |   |
|                | Paper feeding sheet (SPF/RSPF)           | ×   | ×    | ×    | ×    | ×    | ×    | Changing criteria for parts: 100k   |
| Transport unit | Transport roller unit                    | ○   | ▲    | ○    | ▲    | ○    | ▲    | Transport unit supply only  |
|                | Gear                                     | ×   | —    | ×    | —    | ×    | —    | (Only transport gear is supplied as the service parts.)   |
| Ozone filter   | Ozone filter                             | ▲   | ▲    | ▲    | ▲    | ▲    | ▲    |   |
| Others         | Paper feed rollers                       | ○   | ○    | ○    | ○    | ○    | ○    |   |
|                | Gears                                    | ☆   | ☆    | ☆    | ☆    | ☆    | ☆    |   |

## 2. Counter clear

| Item                          | SIM       | Remarks                  |
|-------------------------------|-----------|--------------------------|
| Maintenance cycle setting     | SIM 21-1  |                          |
| Jam/trouble counter clear     | SIM 24-1  |                          |
| Paper feed counter clear      | SIM 24-2  | At maintenance           |
| DF/Scan/Stapler counter clear | SIM 24-3  | At maintenance           |
| Maintenance counter clear     | SIM 24-4  | At drum replacement      |
| Developing counter clear      | SIM 24-5  | At developer replacement |
| Copy counter clear            | SIM 24-6  |                          |
| Drum counter clear            | SIM 24-7  | At drum replacement      |
| Printer, other counter clear  | SIM 24-9  |                          |
| FAX counter clear             | SIM 24-10 |                          |
| Scanner mode counter clear    | SIM 24-15 |                          |

## 3. List of disassembly and assembly

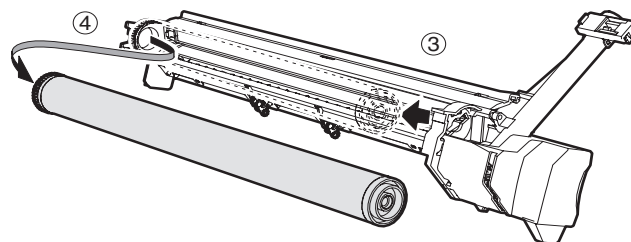
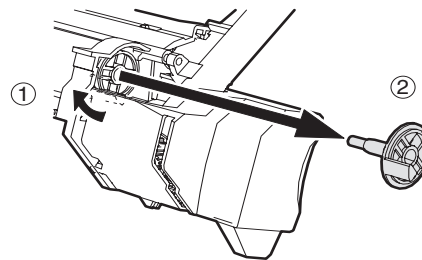
| Unit               | Parts |   |                    |
|--------------------|-------|---|--------------------|
| A. Process unit    | (1)   | Drum  |                    |
|                    | (2)   | Drum section                                | a. Main charger    |
|                    |       |   | b. Cleaning blade  |
|                    |       |   | c. Drum frame unit |
|                    |       |   | d. Moquette F/R    |
| B. Developing unit |       |   | e. Separation pawl |
|                    | (1)   | Developer                                   |                    |
|                    | (2)   | DV seal/side seal N/side seal N2/side mylar |                    |

| Unit                   | Parts |  |                                    |
|------------------------|-------|--|------------------------------------|
| C. Fusing unit         | (1)   | Thermostat                             |                                    |
|                        | (2)   | Thermistor                             |                                    |
|                        | (3)   | Paper guide                            |                                    |
|                        | (4)   | Fusing Separation Pawl (lower)         |                                    |
|                        | (5)   | Lower heat roller                      |                                    |
|                        | (6)   | Heater lamp                            |                                    |
|                        | (7)   | Fusing Separation Pawl (upper)         |                                    |
|                        | (8)   | Upper heat roller                      |                                    |
| D. Optical section     | (1)   | CCD unit                               |                                    |
|                        | (2)   | Lamp unit                              | a. Lamp                            |
|                        |       |  | b. PWB                             |
|                        |       |  | c. Wire                            |
|                        |       |  | d. Mirror motor                    |
| E. Paper feed section  | (1)   | Paper feed solenoid                    |                                    |
|                        | (2)   | Cassette sensor PWB                    |                                    |
|                        | (3)   | Manual P-in sensor/Manual empty sensor |                                    |
|                        | (4)   | Multi manual paper feed                | a. Paper feed roller/pickup roller |
|                        |       |  | b. Reverse sensor                  |
|                        |       |  | c. Separation sheet                |
|                        |       |  | d. Clutch/solenoid                 |
|                        | (5)   | Upper 500 sheets tray paper feed       | a. Paper feed roller/pickup roller |
|                        |       |  | b. Separation sheet                |
|                        | (6)   | Lower 500 sheets tray paper feed       | a. Paper feed roller/pickup roller |
|                        |       |  | b. Separation sheet                |
|                        |       |  | c. Lift up unit                    |
|                        |       |  | d. Transport clutch                |
|                        |       |  | e. Paper feed clutch               |
|                        |       |  | f. Transport clutch                |
|                        |       |  | g. Solenoid                        |
|                        |       |  | h. Sensor PWB                      |
|                        |       |  | i. Dehumidification heater         |
| F. Side door unit      | (1)   | Transport roller unit                  |                                    |
|                        | (2)   | Transport roller                       |                                    |
|                        | (3)   | DUP transport roller                   |                                    |
|                        | (4)   | DUP motor                              |                                    |
| G. 1st paper exit unit | (1)   | Exit roller                            |                                    |
|                        | (2)   | Cooling fan                            |                                    |
| H. 2nd paper exit unit | (1)   | Switch                                 |                                    |
|                        | (2)   | Sensor                                 |                                    |
|                        | (3)   | Roller                                 |                                    |
| I. Laser unit          | (1)   | LSU                                    |                                    |
| J. Power unit          | (1)   | Power source                           |                                    |
| K. PWB                 | (1)   | Option CN PWB                          |                                    |
|                        | (2)   | IMC PWB                                |                                    |
|                        | (3)   | MCU PWB                                |                                    |
|                        | (4)   | Motherboard PWB                        |                                    |
|                        | (5)   | Second interface PWB                   |                                    |
| L. Ozone filter        |       |  |                                    |
| M. Drive section       | (1)   | DUP reverse motor                      |                                    |
|                        | (2)   | Main drive motor                       |                                    |
|                        | (3)   | Toner motor                            |                                    |
|                        | (4)   | Drive unit                             |                                    |
|                        | (5)   | PS transport clutch                    |                                    |
|                        | (6)   | Paper feed clutch                      |                                    |
|                        | (7)   | Lift up motor                          |                                    |
| N. Transport section   | (1)   | Transport roller                       |                                    |
| O. Operation section   | (1)   | Operation section                      |                                    |
|                        | (2)   | OPU PWB                                |                                    |
|                        | (3)   | Key PWB                                |                                    |
|                        | (4)   | LCD unit                               |                                    |
| P. Switch              | (1)   | Power switch/                          |                                    |

## 4. Details of disassembly and assembly

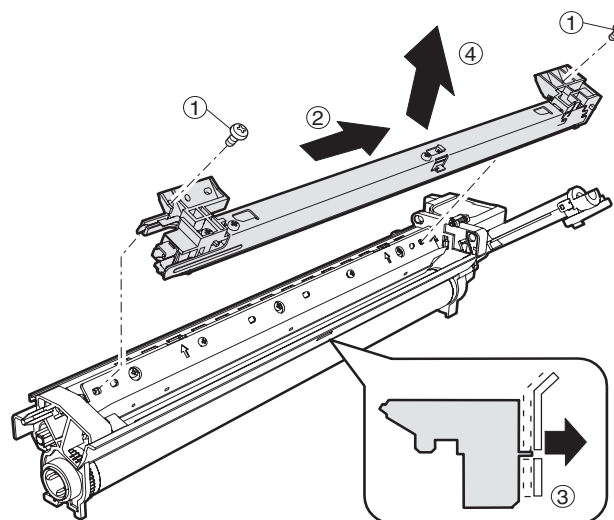
### A. Process unit

#### (1) Drum

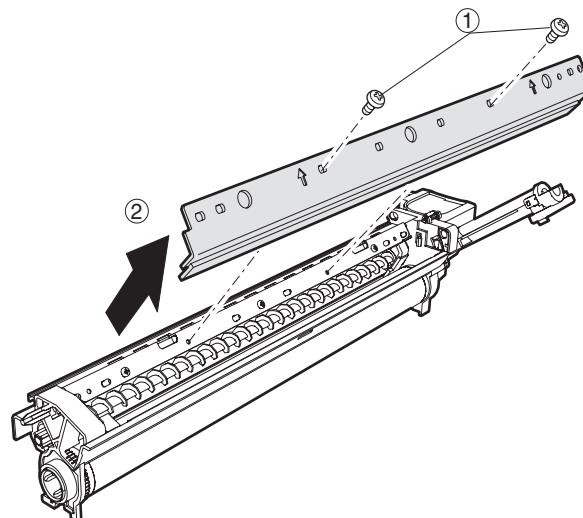


#### (2) Drum section

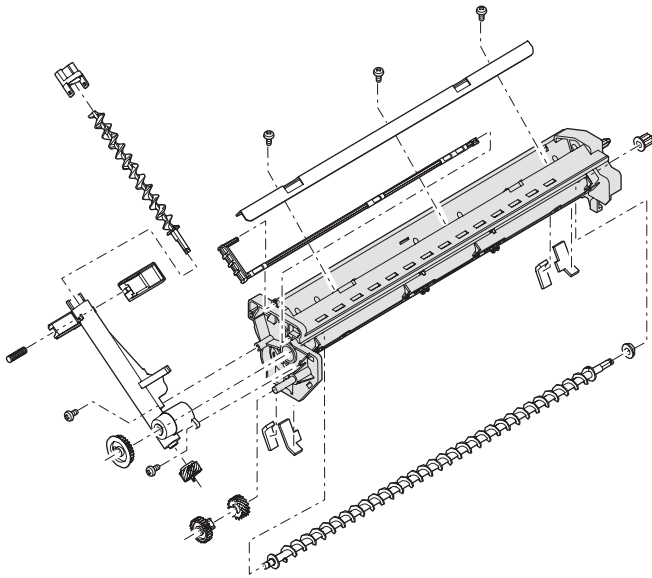
##### a. Main charger



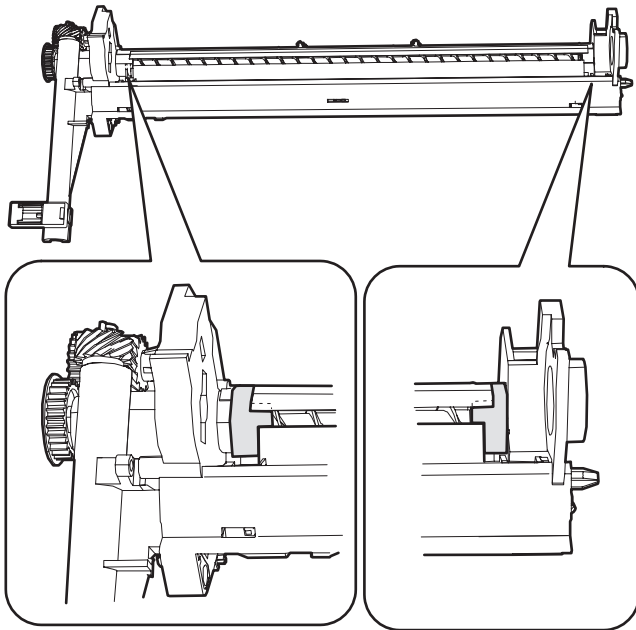
##### b. Cleaning blade



### c. Drum frame unit



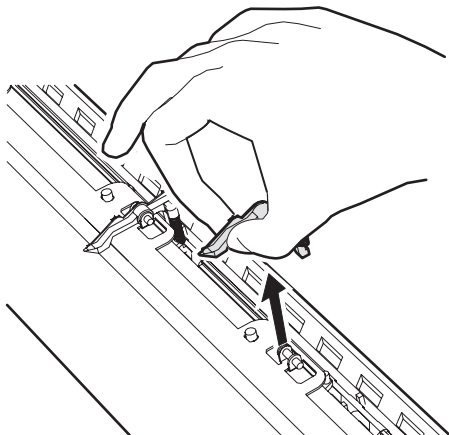
### d. Moquette F/R



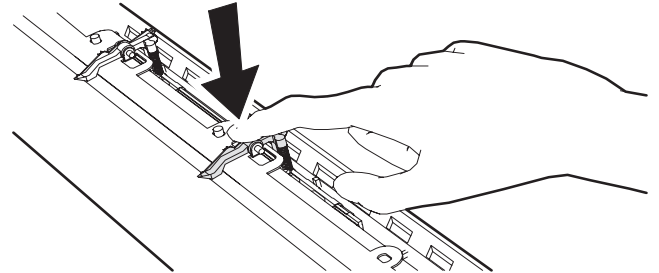
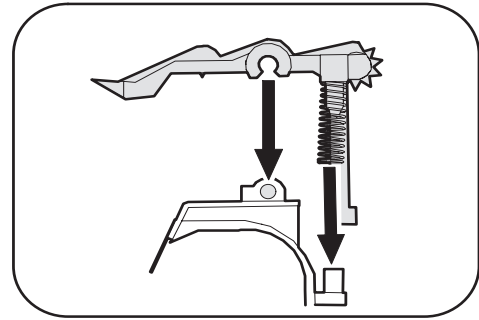
Note: If it disturbs the blade movement, replace it and attach new one.

### e. Separation pawl

Disassembly\* Hold the tip of the separation pawl and remove it.

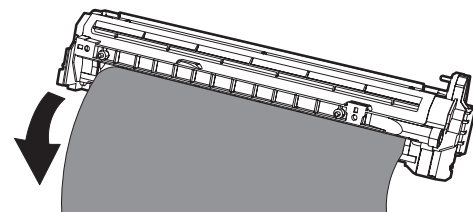
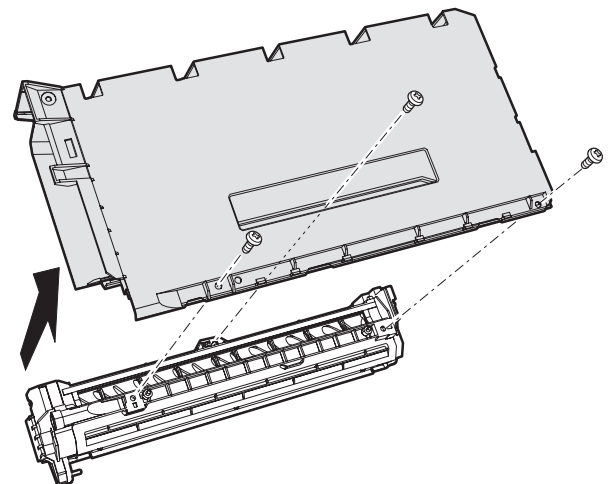
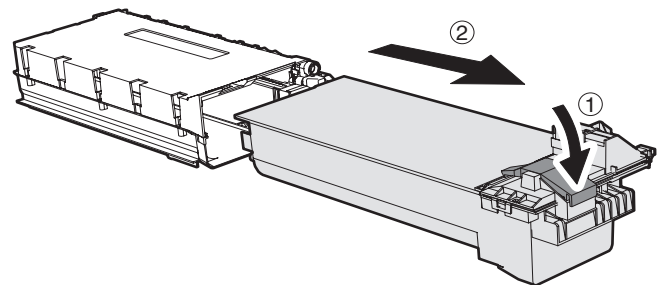


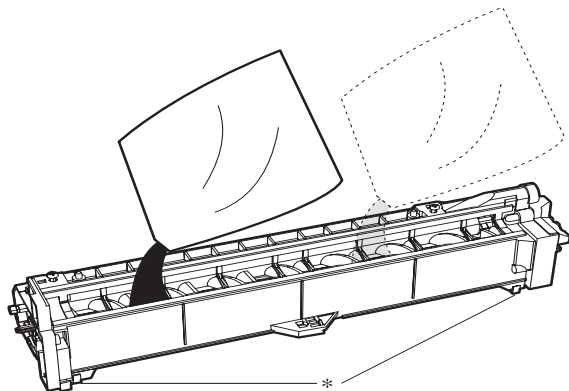
Assembly\* Press the center of the separation pawl and install it.



## B. Developing section

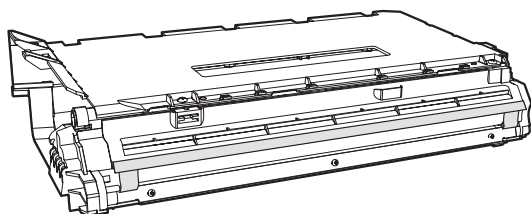
### (1) Developer



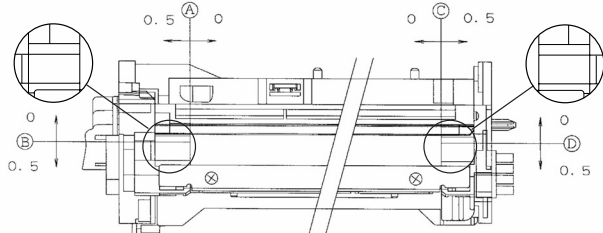


\* When assembling, check that the hook is securely engaged in two positions.

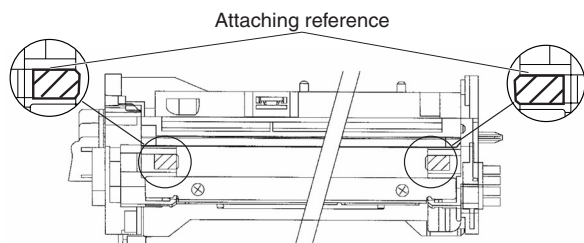
## (2) DV seal/side seal



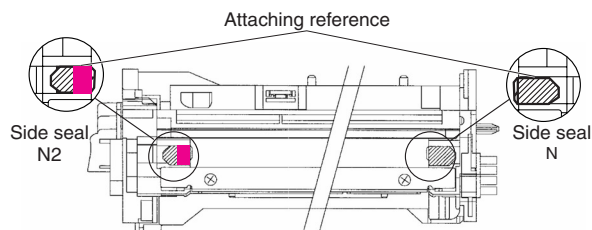
### [DV seal attachment procedure]



- 1) When attaching the DV side Mylar, check the position shown in the figure below and attach it properly.



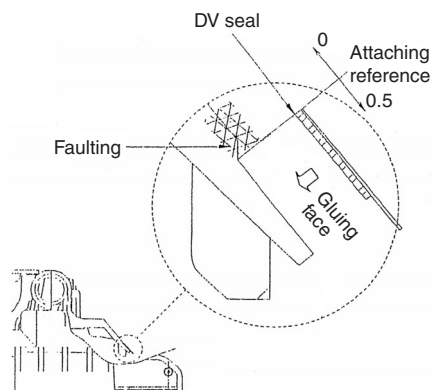
- 2) When attaching the DV side seal, check the position shown in the figure below and attach it properly.  
(First of all, attach the DV side Mylar.)



The attachment reference is the same, but the area of the N2 shape is reduced to half as shown with the red square in the above figure.

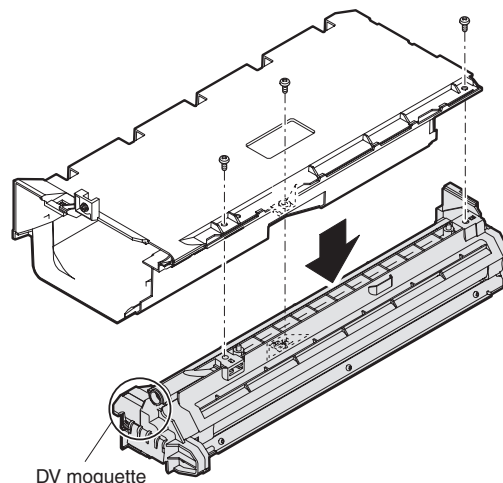
\* Be sure to attach the DV side sheet so that the notch is on the outside.

Note: Attach it to fit with the attachment reference when replacing the DV seal.

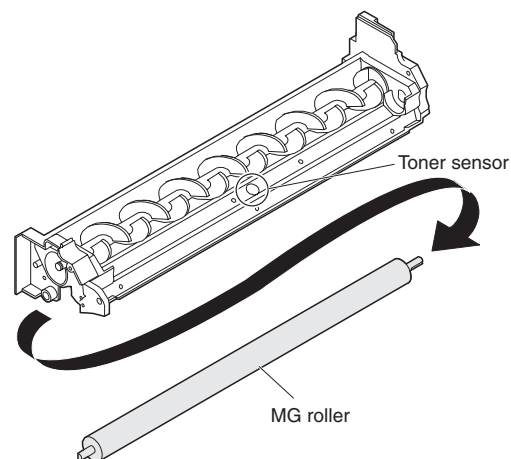


## (3) DV moquette/Toner sensor

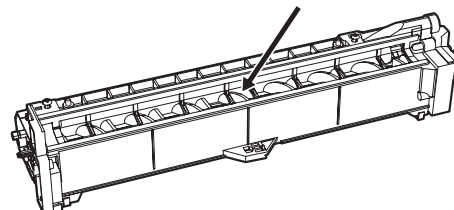
### a. DV moquette



### b. Toner sensor

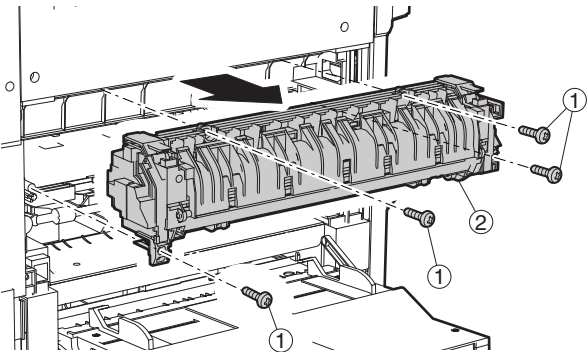
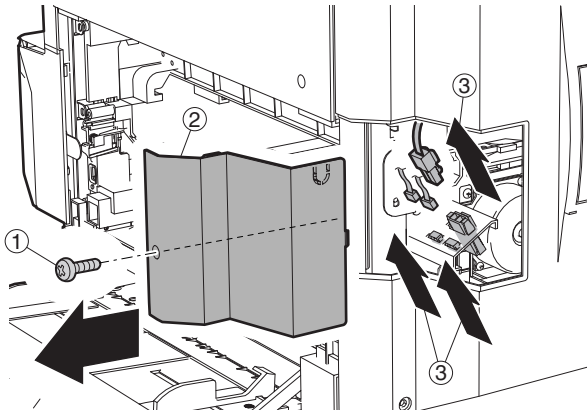


- Clean the sensor only after removing used DV when replacing DV.
- There is no need to remove the MG roller as shown in the above figure. Use waste cloth to remove toner from the sensor surface in the arrow direction shown in the figure below.

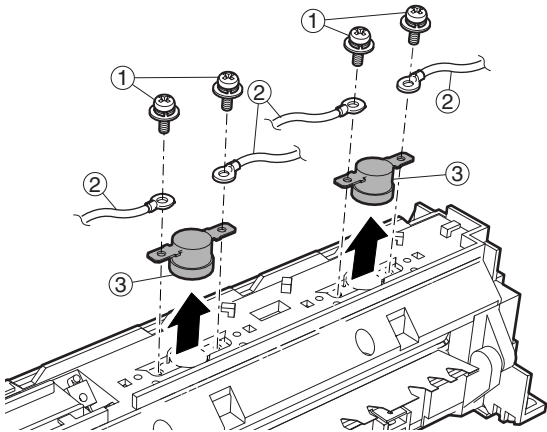




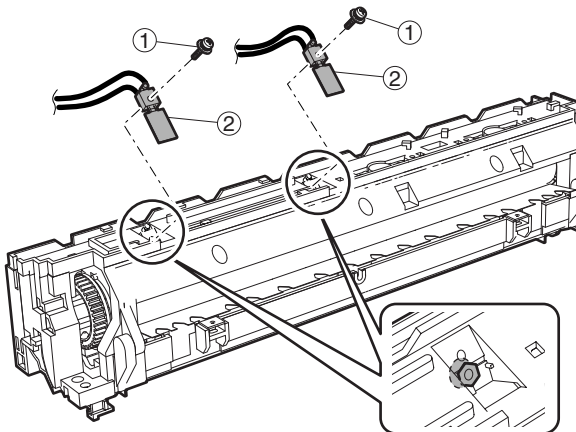
## C. Fusing section



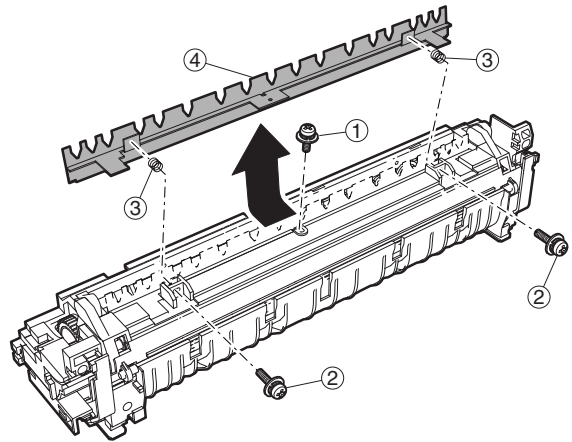
### (1) Thermostat



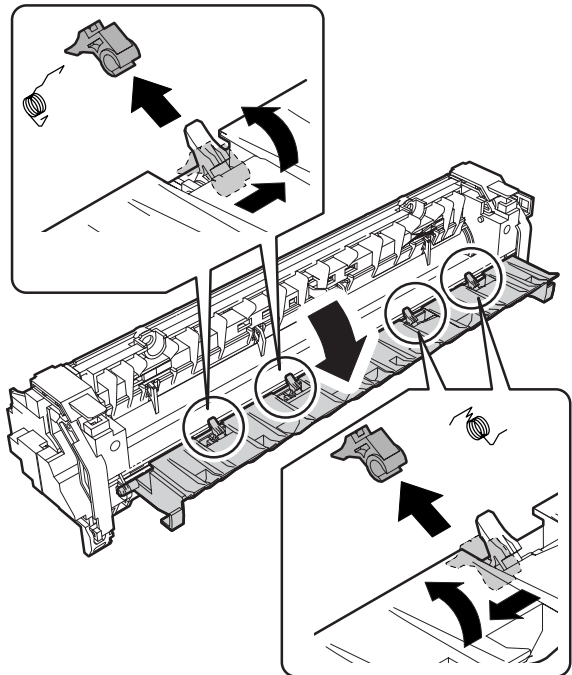
### (2) Thermistor



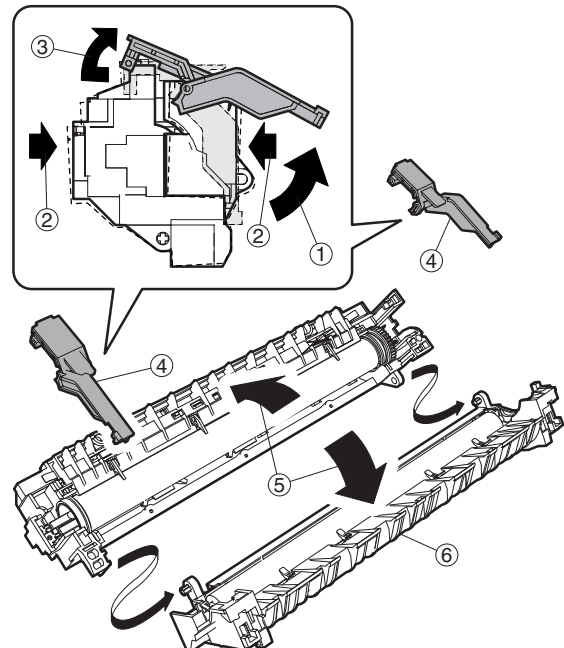
### (3) Paper guide

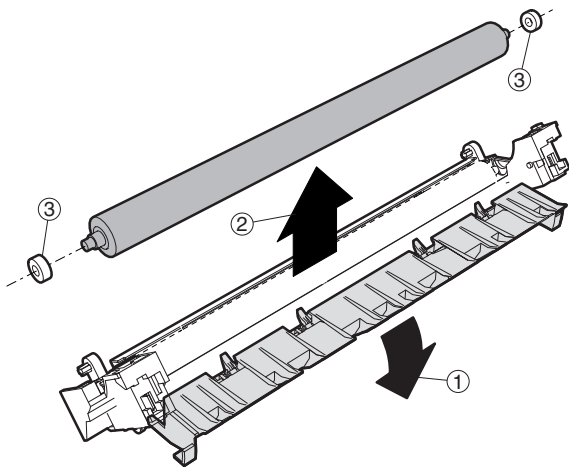


### (4) Fusing Separation Pawl (lower)

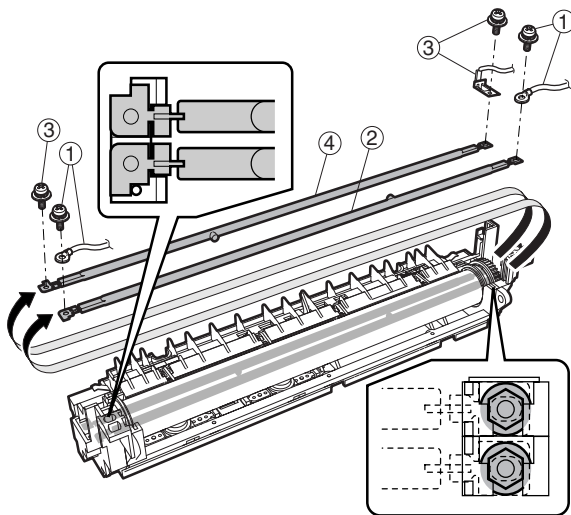


### (5) Lower heat roller

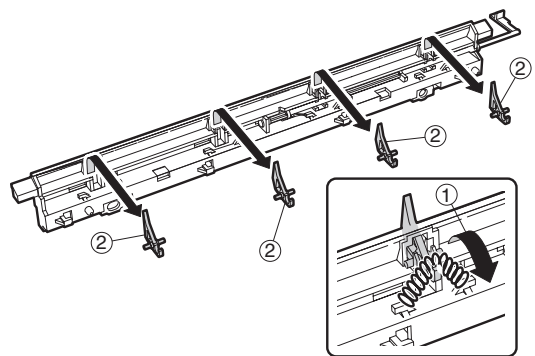
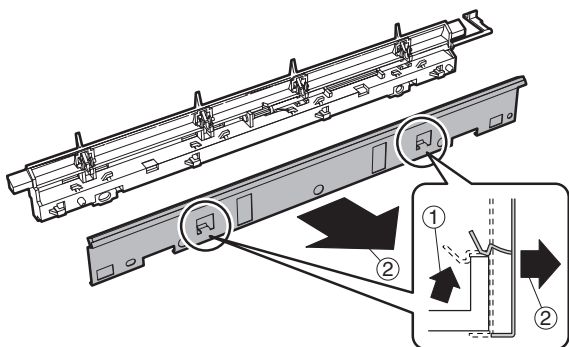
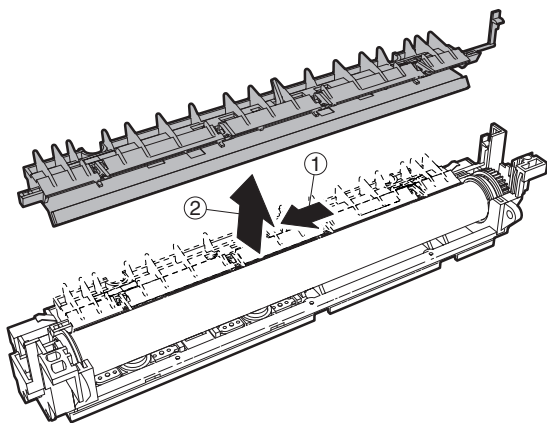




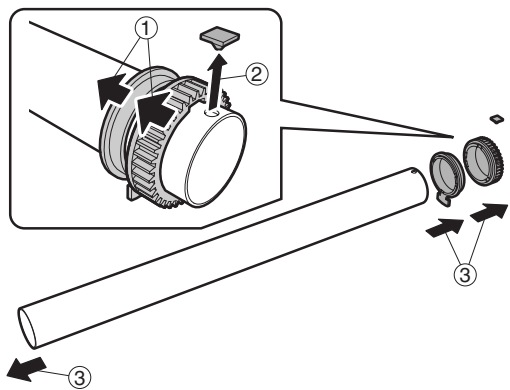
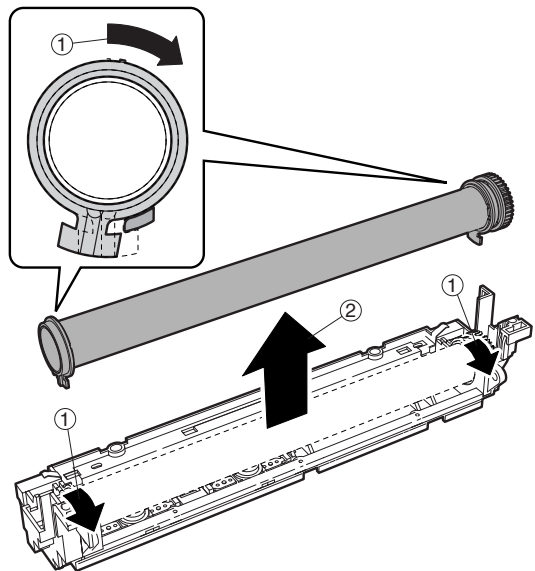
(6) Heater lamp



(7) Fusing Separation Pawl (upper)

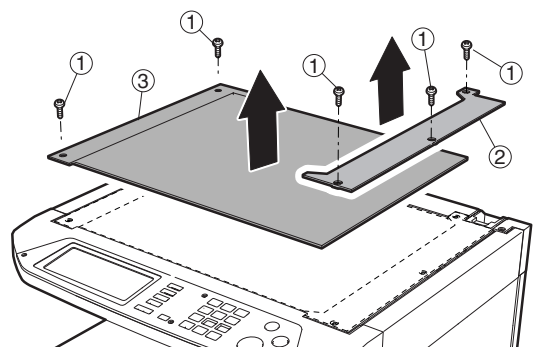


(8) Upper heat roller

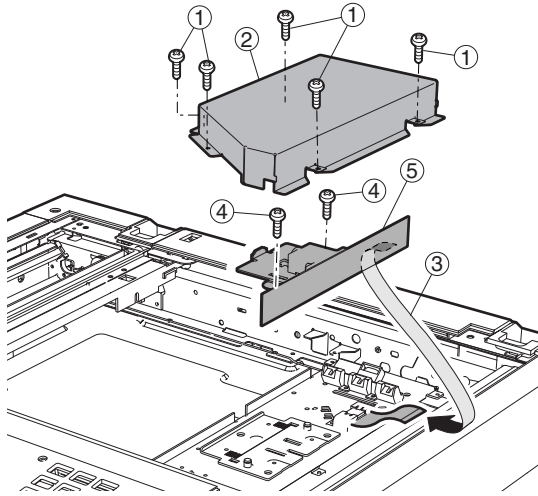


## D. Optical section

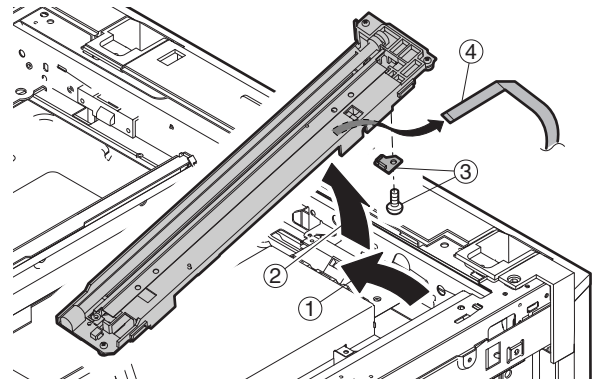
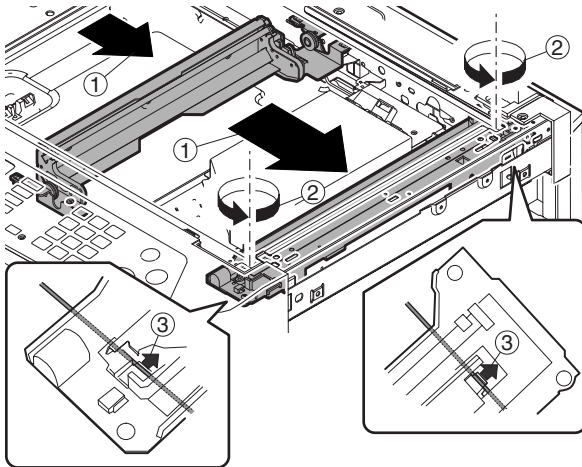
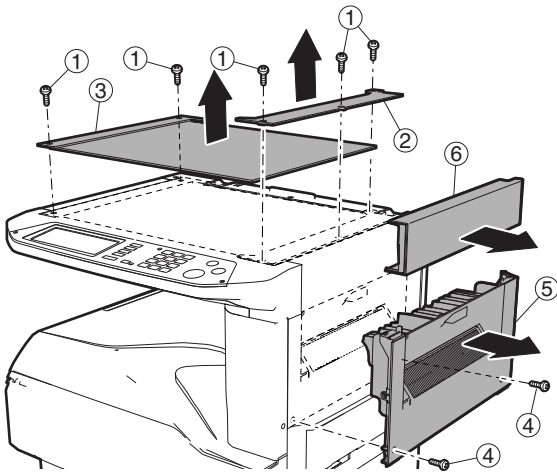
(1) CCD unit



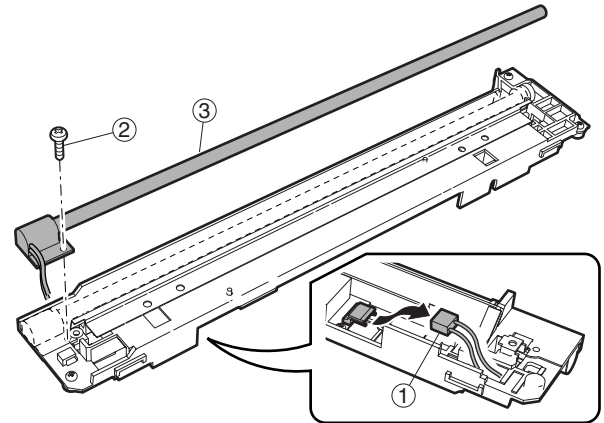




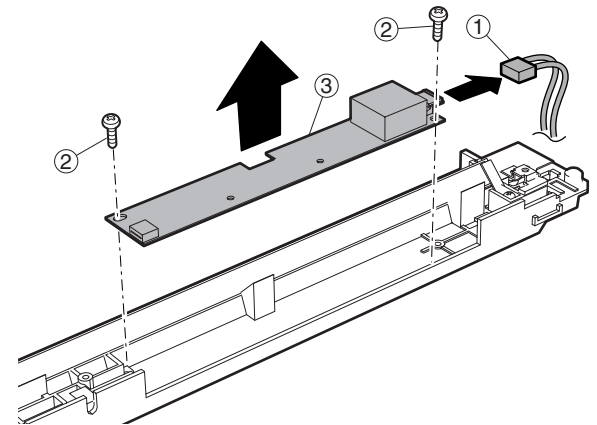
## (2) Lamp unit



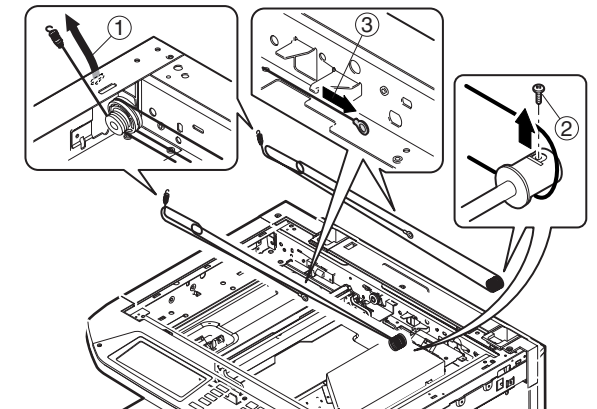
## a. Lamp

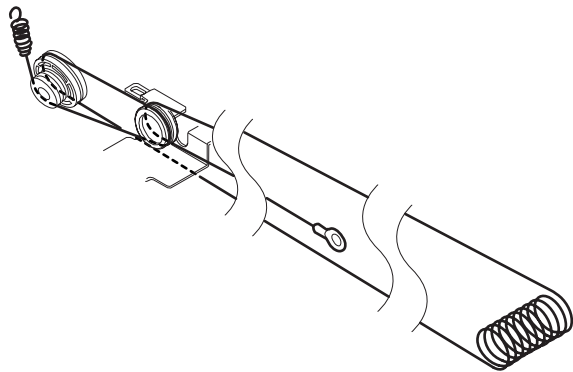


## b. PWB

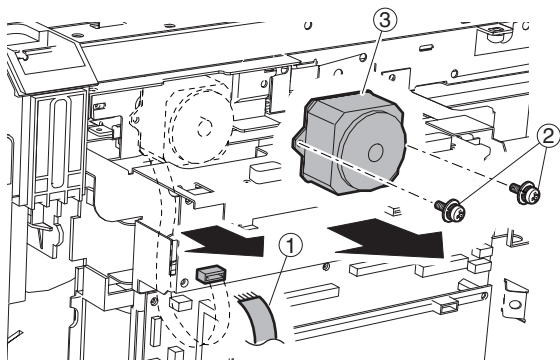


## c. Wire

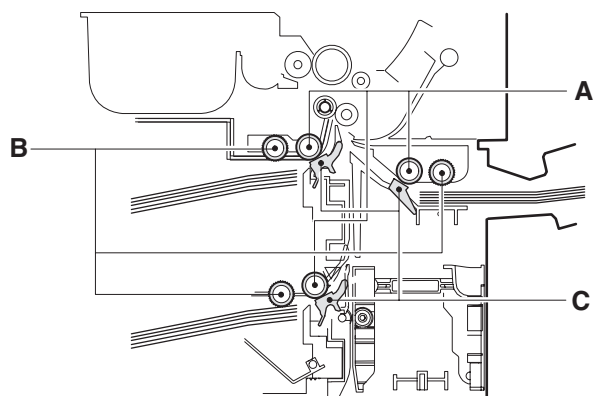




d. Mirror motor

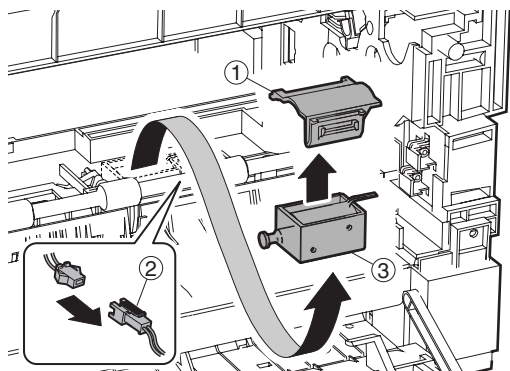


E. Paper feed section

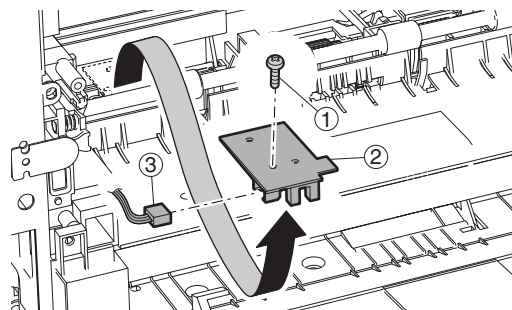


|   |                   |
|---|-------------------|
| A | Paper feed roller |
| B | Pickup roller     |
| C | Separation sheet  |

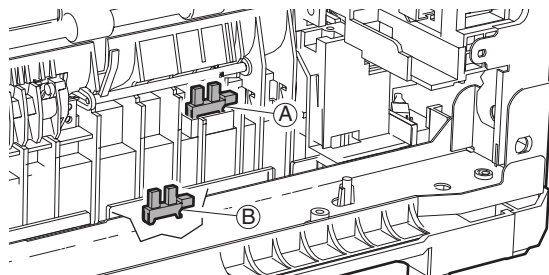
(1) Paper feed solenoid



(2) Cassette sensor PWB

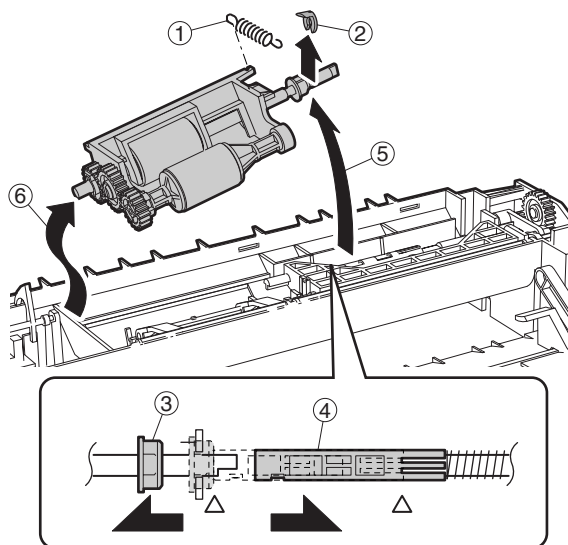
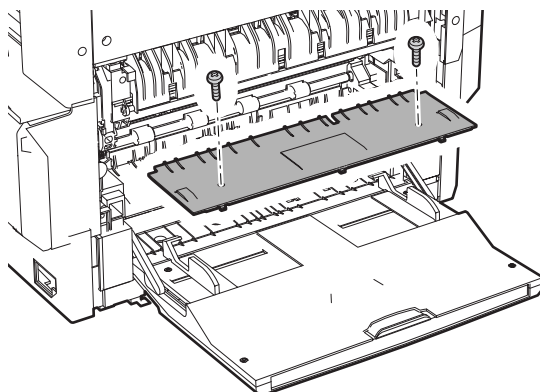


(3) Manual P-in sensor/Manual empty sensor

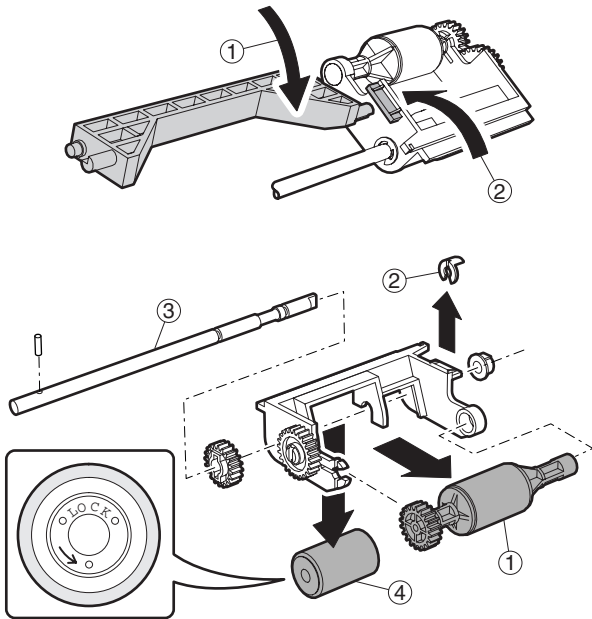


(4) Multi manual paper feed

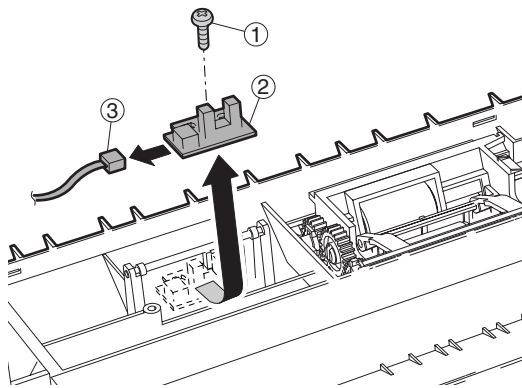
a. Paper feed roller/pickup roller



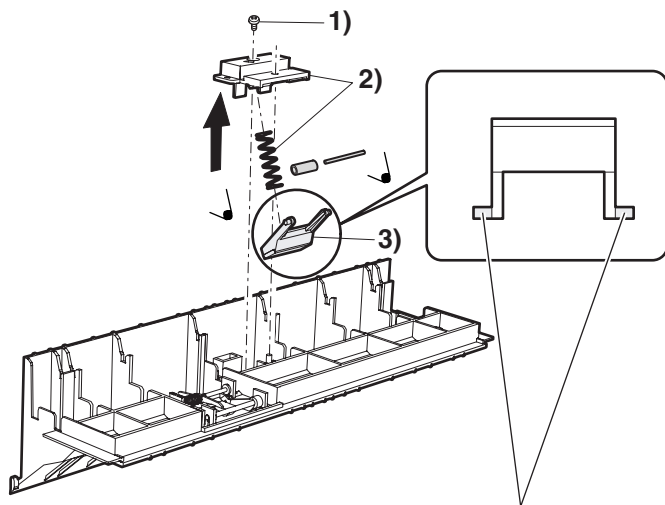
Installation\* Install so that the cam transmit arm (1) comes under the roller arm (2).



**b. Reverse sensor**

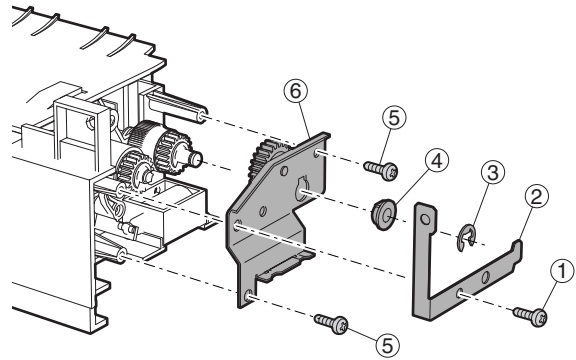


**c. Separation sheet**

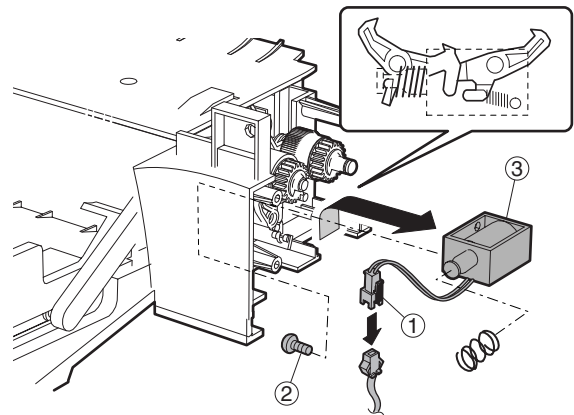


\* Slightly apply grease GP501MR (UKOG-0012QSZZ) around the axis. One rice grain for each.

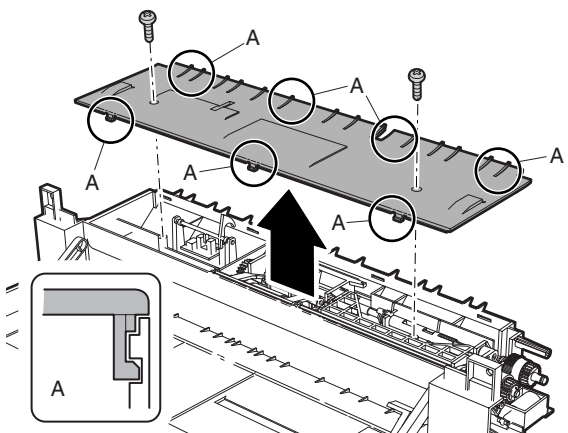
**d. Clutch/solenoid**  
(Clutch)

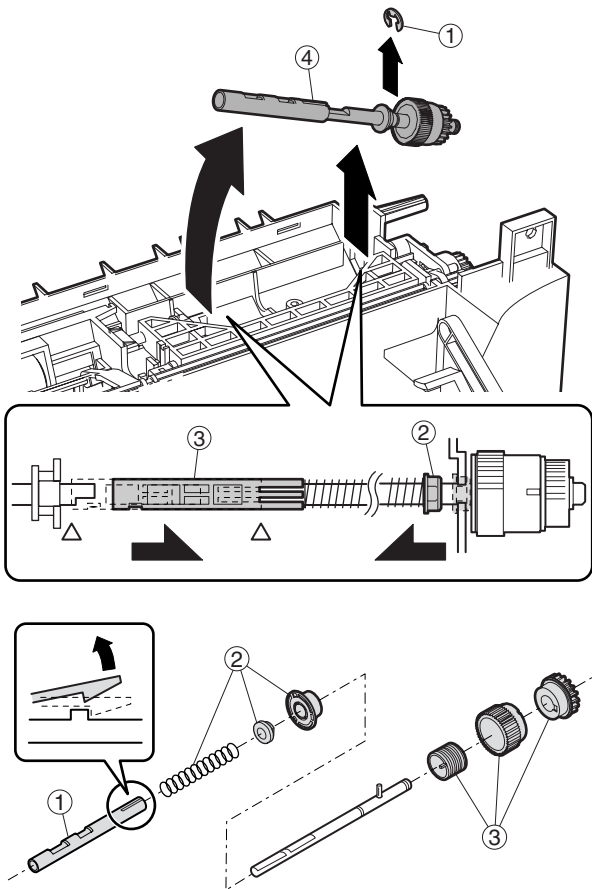


(Solenoid)

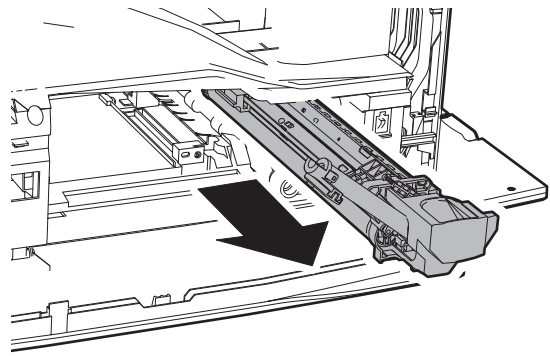
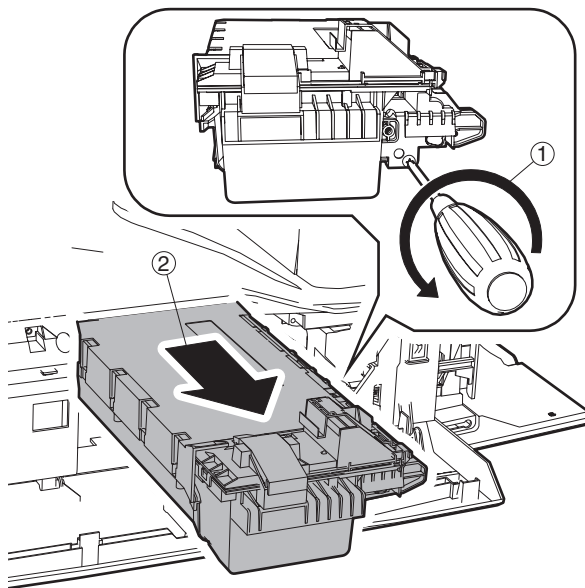


(Clutch)

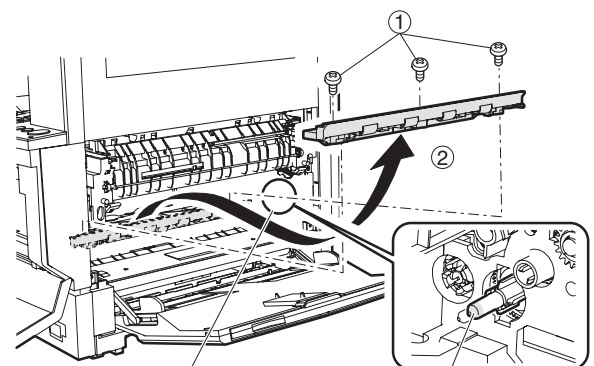
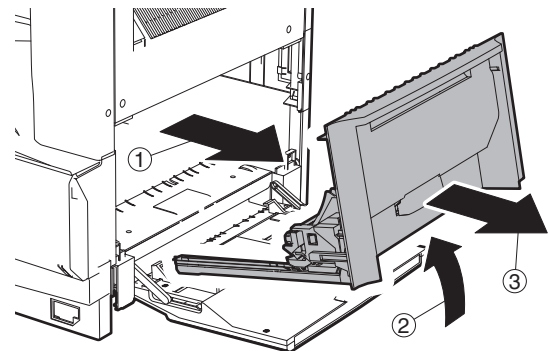
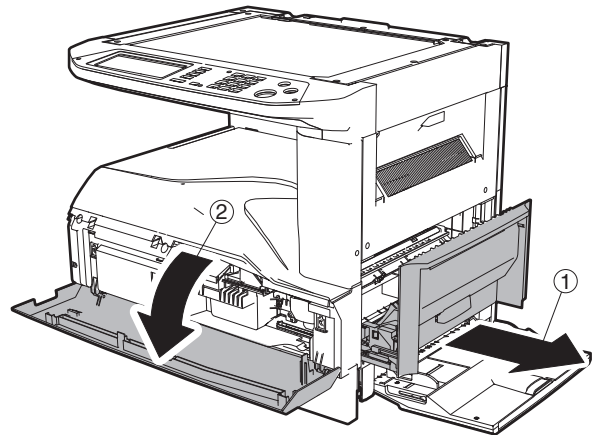




**(5) Upper 500 sheets tray paper feed**  
**a. Paper feed roller/pickup roller**



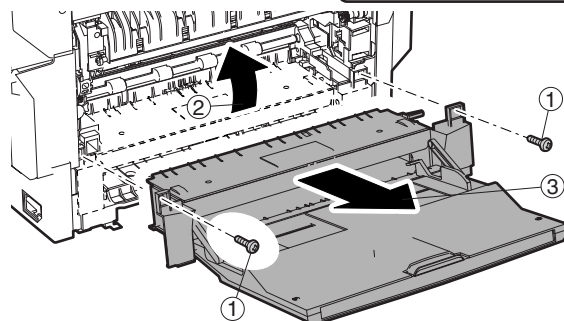
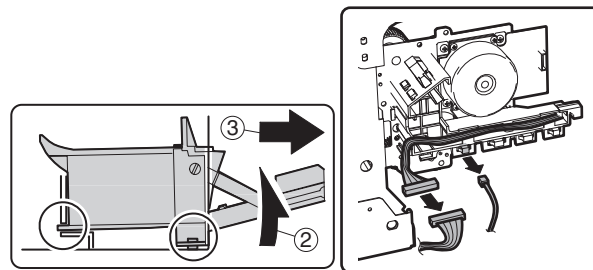
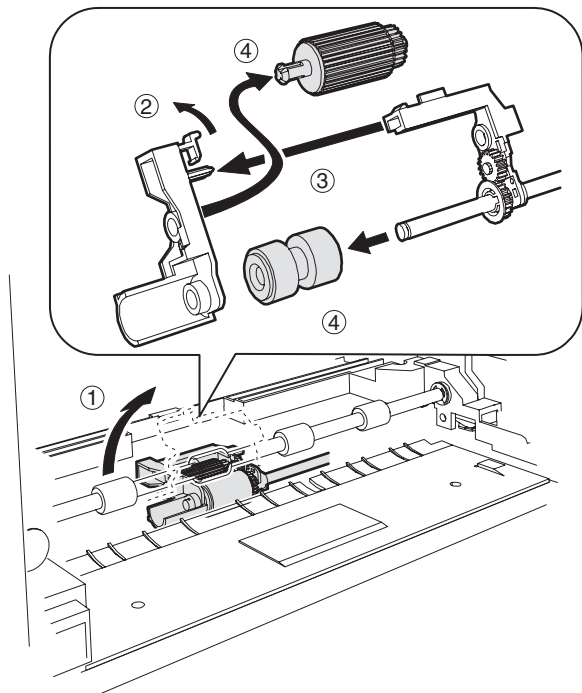
Note: With the toner cartridge installed, do not tilt or shake the developer cartridge.



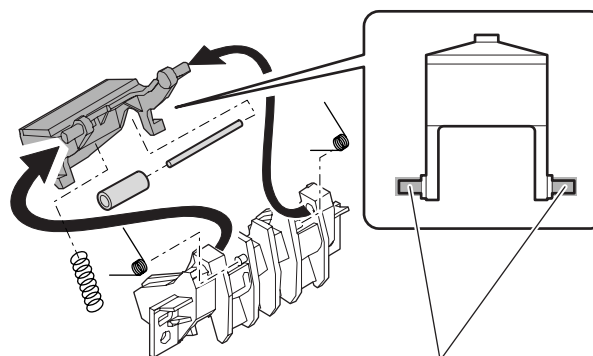
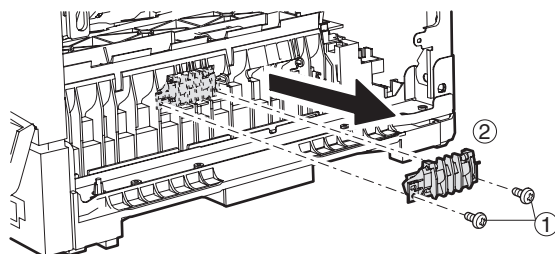
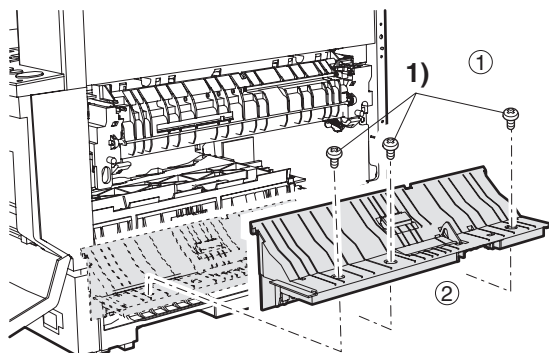
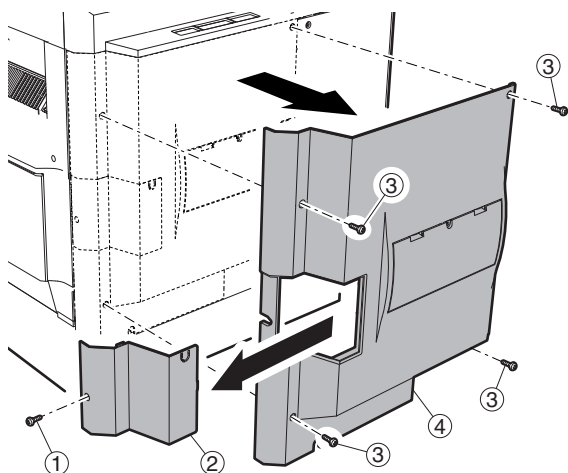
\* When replacing, be careful not to adhere conduction grease (black) to the drive section.

Slightly apply grease GE676 (UKOG-0013QSZZ) to the drum boss.





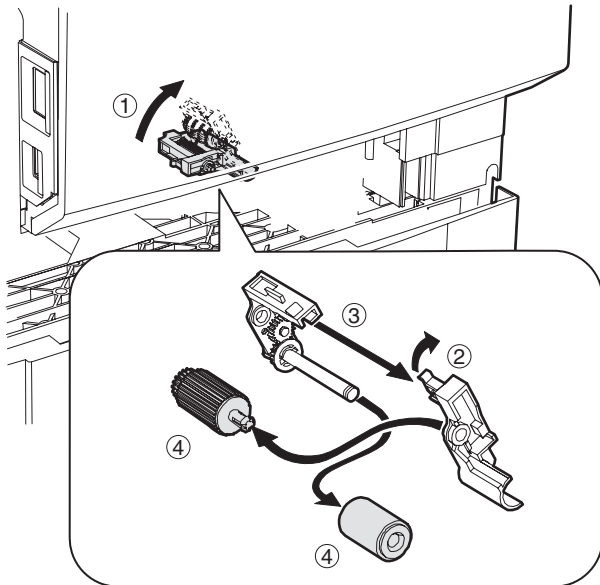
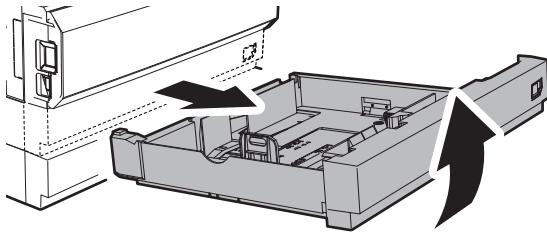
#### b. Separation sheet



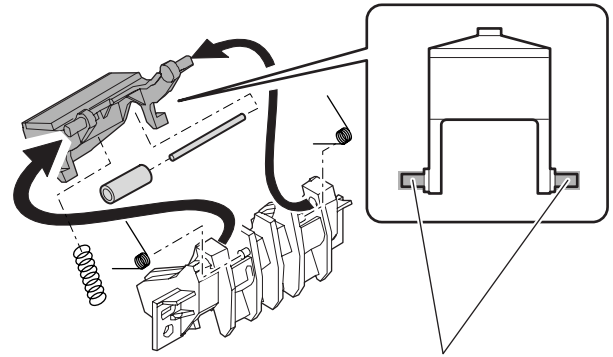
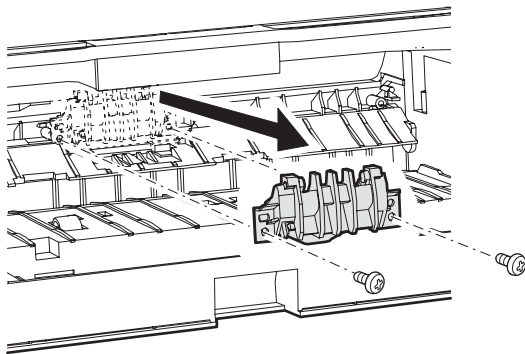
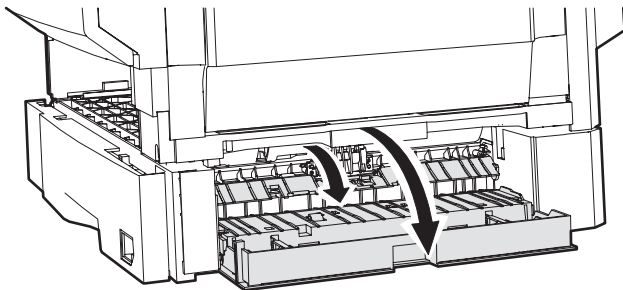
\* Slightly apply grease GP501MR (UKOG-0012QSZZ) around the axis. One rice grain for each.  
Grease should not come out when assembling.

### (3) Lower 500 sheets tray paper feed

#### a. Paper feed roller/pickup roller

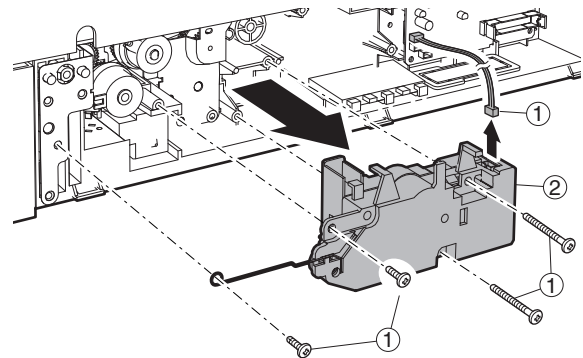


#### b. Separation sheet

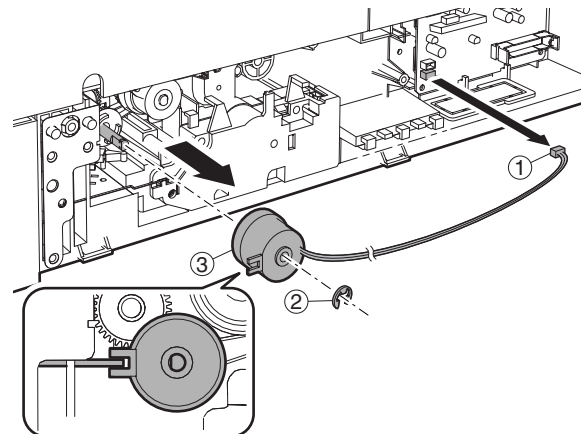


\* Slightly apply grease GP501MR (UKOG-0012QSZZ) around the axis. One rice grain for each. Grease should not come out when assembling.

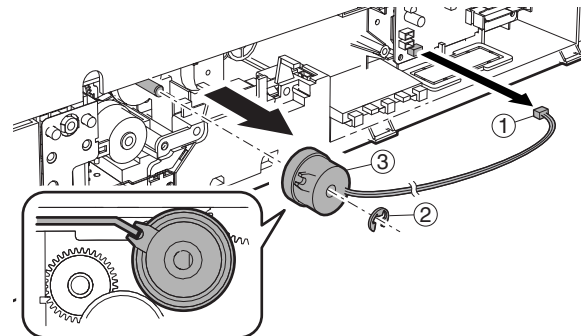
#### c. Lift up unit



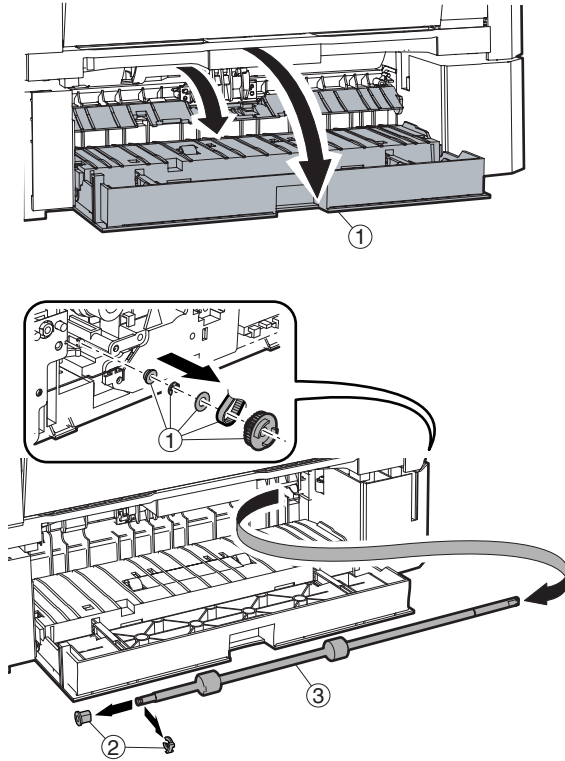
#### d. Transport clutch



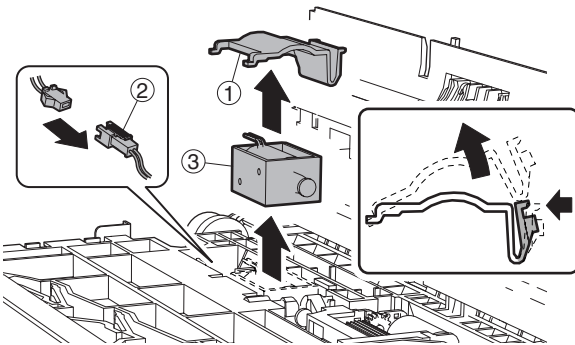
#### e. Paper feed clutch



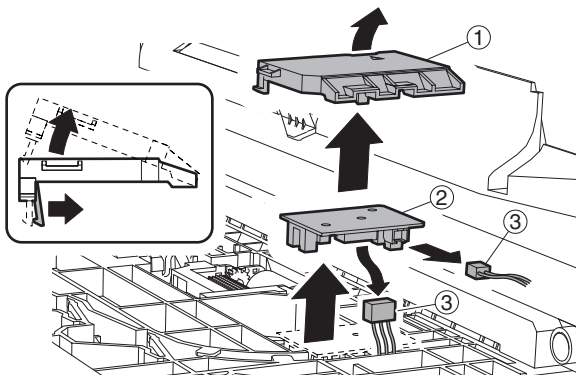
#### f. Transport clutch



#### g. Solenoid

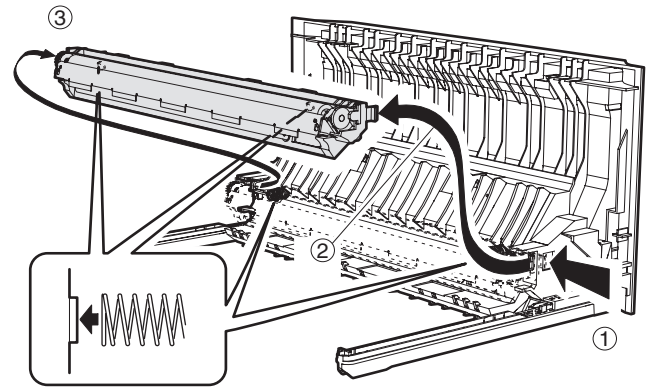


#### h. Sensor PWB



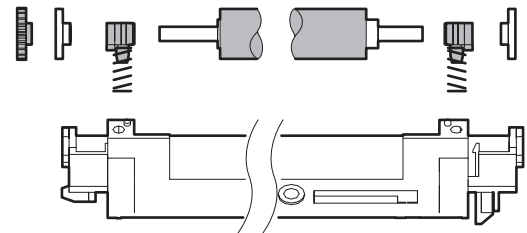
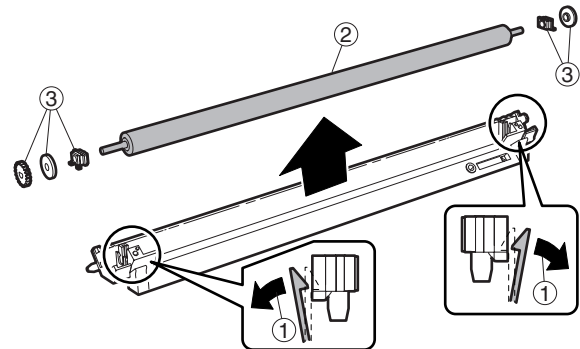
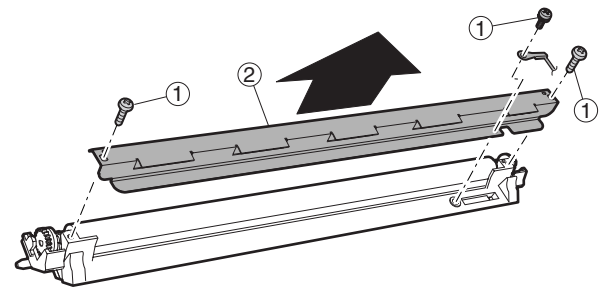
#### F. Side door unit

##### (1) Transport roller unit

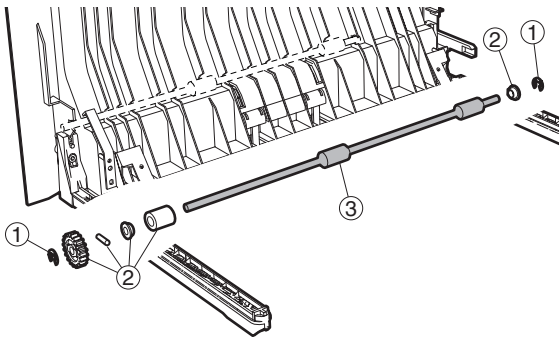
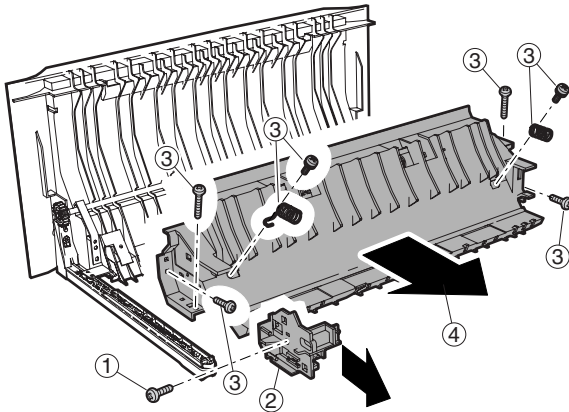


\* Check that two springs are securely inserted into the transfer roller unit bosses.

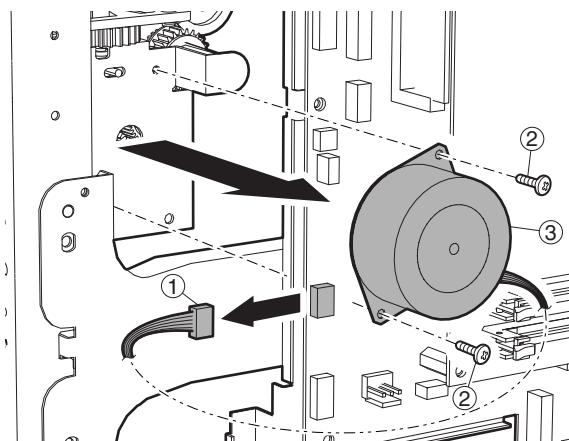
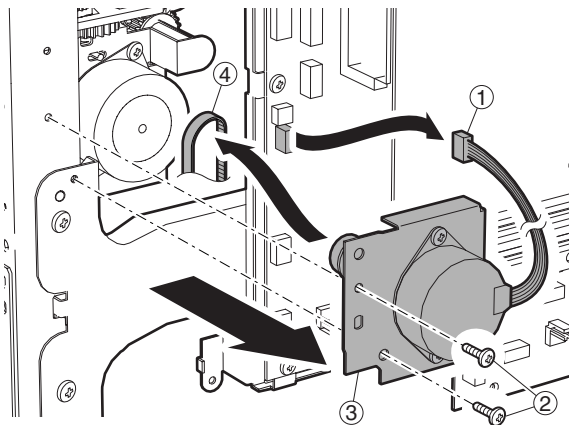
##### (2) Transport roller



### (3) DUP transport roller

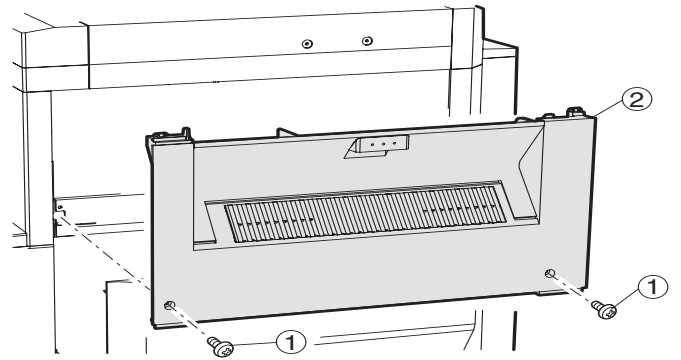


### (4) DUP motor

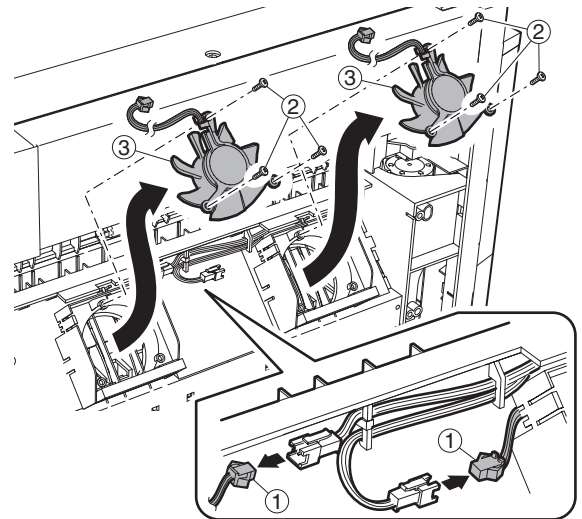


### G. 1st paper exit unit

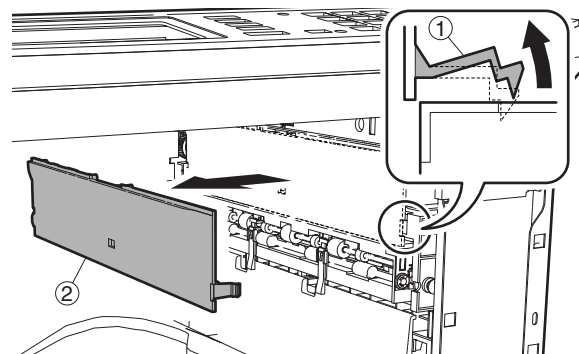
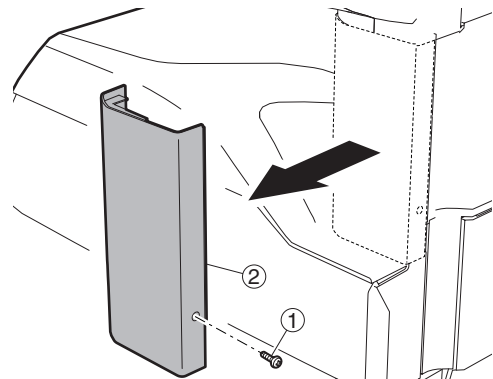
#### (1) Exit roller



#### (2) Cooling fan

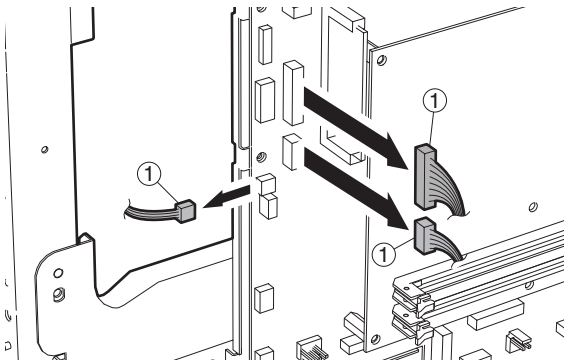


- Remove the front right cabinet.

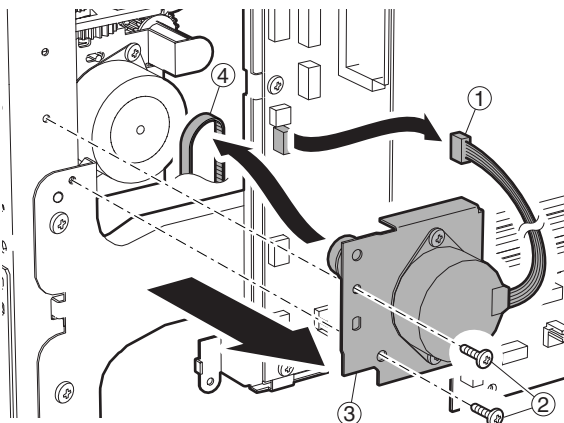




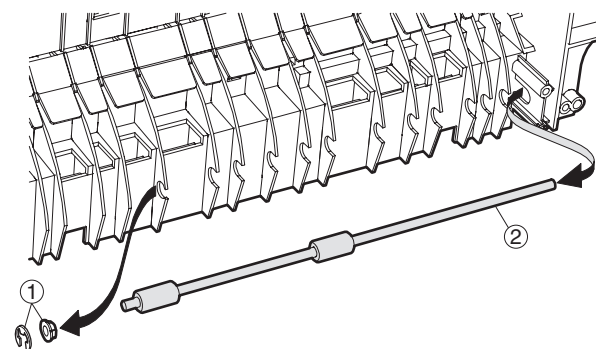
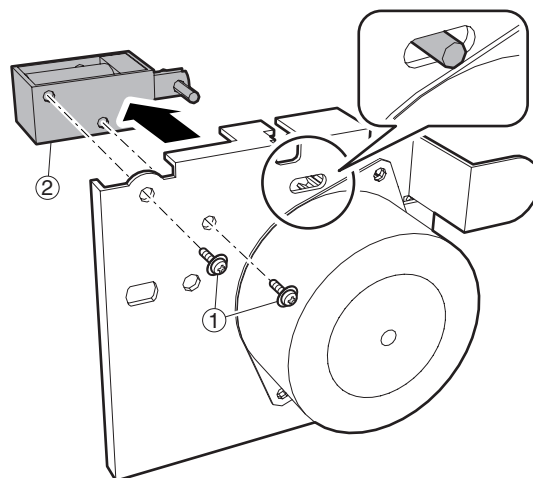
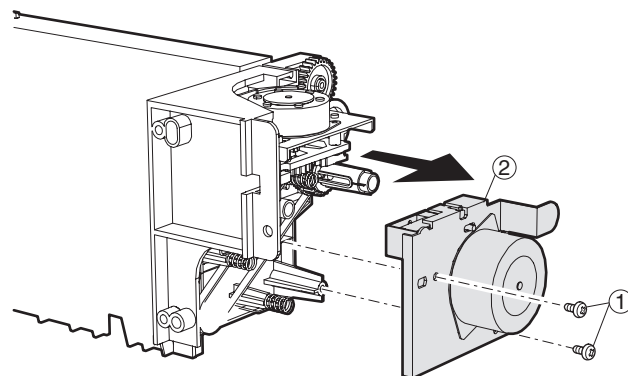
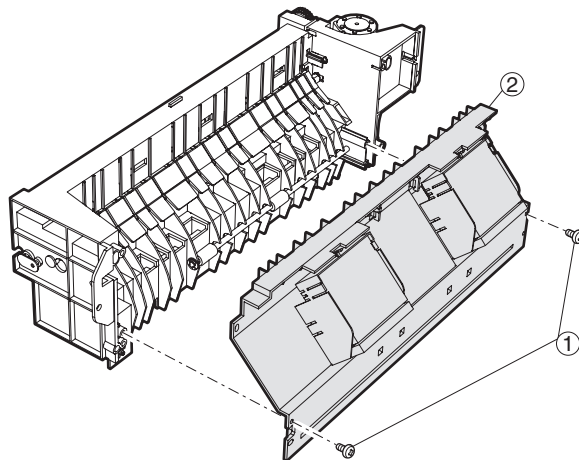
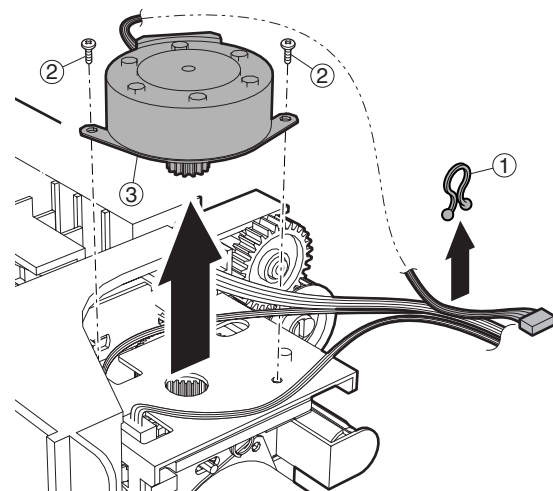
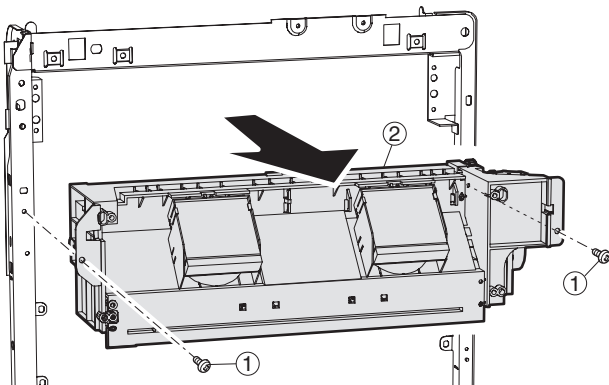
- Remove the MCU PWB section connector.

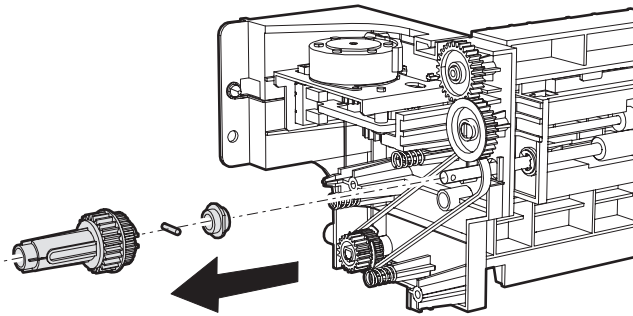


- Remove the DUP motor.

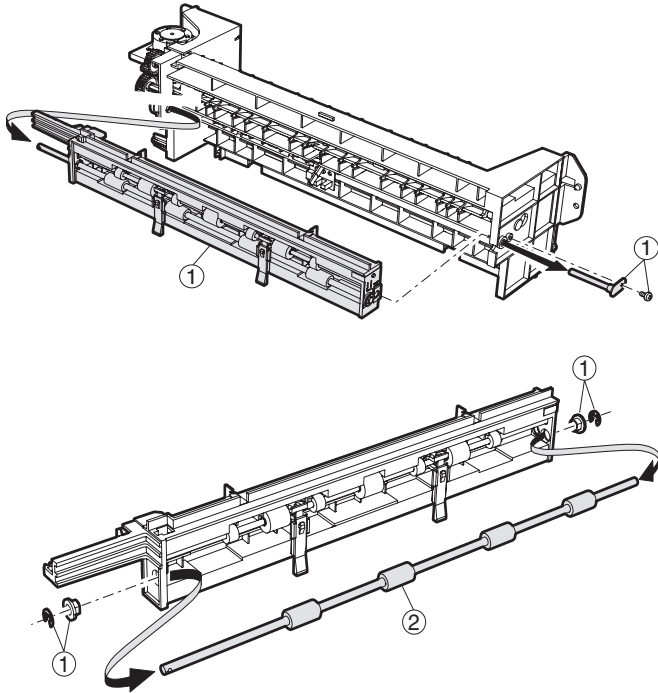


- Remove the delivery frame.

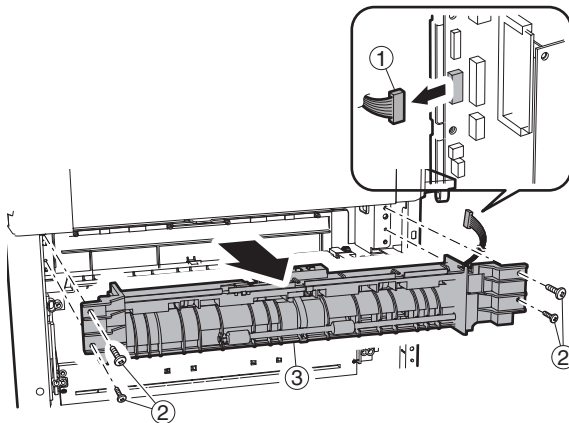




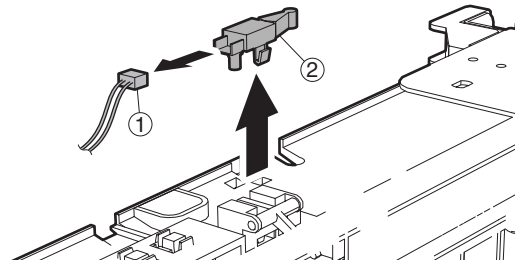
Note: Check to confirm that the solenoid shaft is in the gate bracket, and fix with the screw.



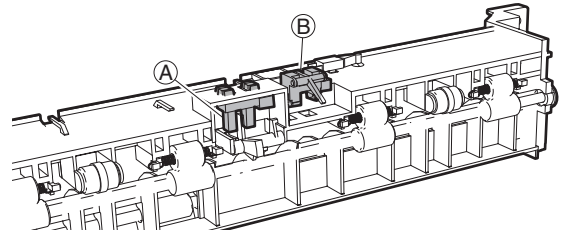
## H. 2nd paper exit unit



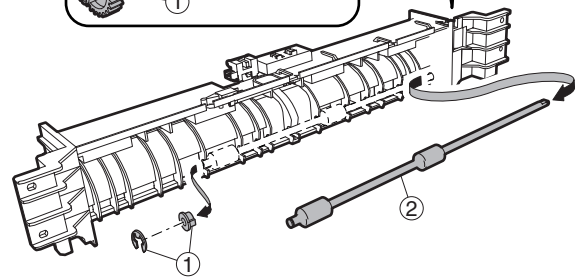
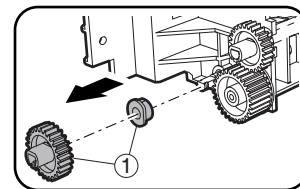
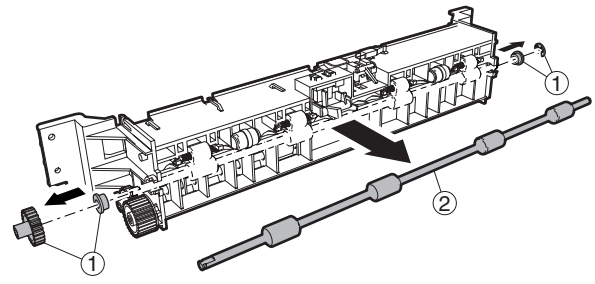
## (1) Switch



## (2) Sensor

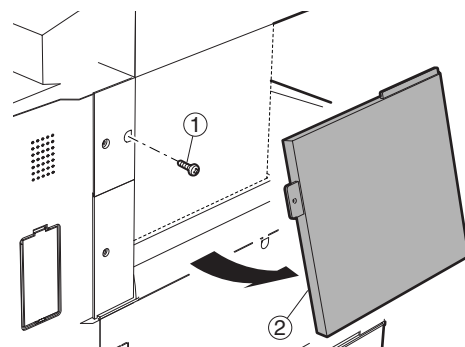


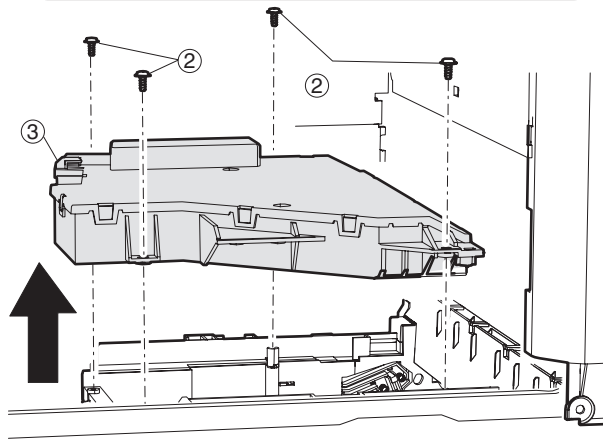
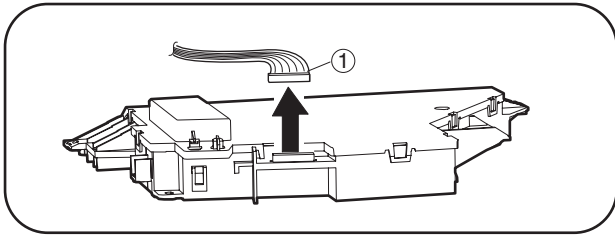
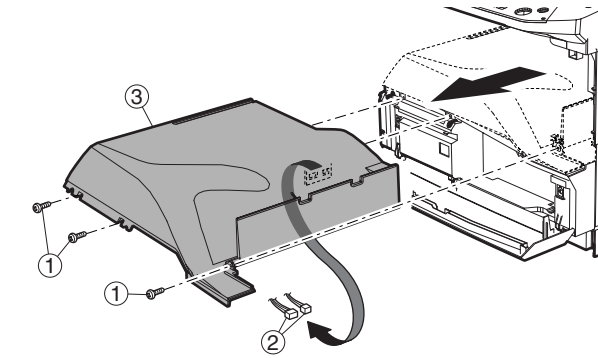
## (3) Roller



## I. Laser unit

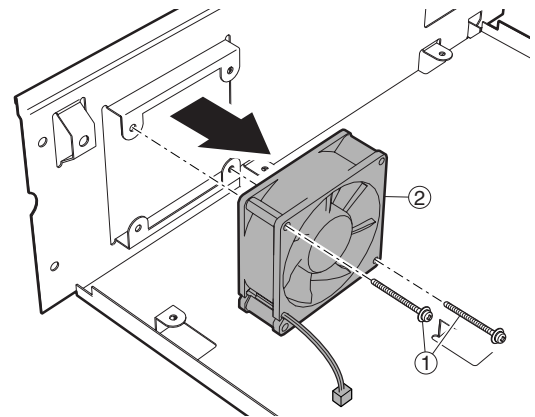
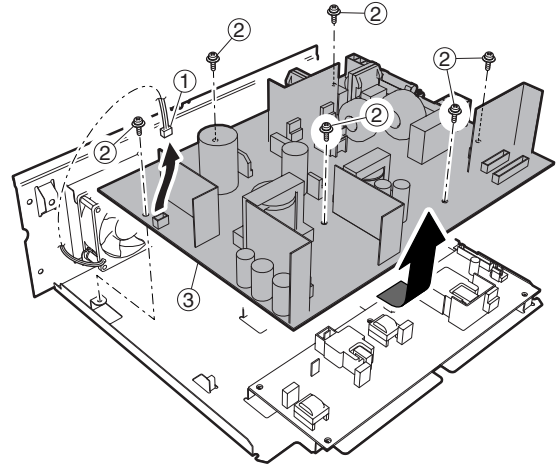
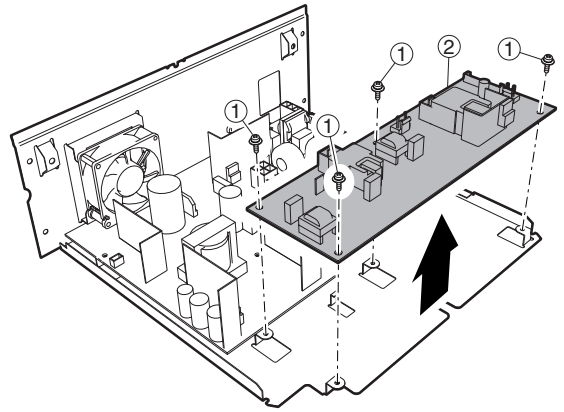
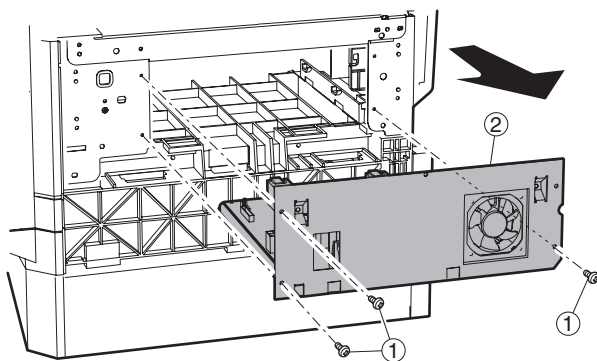
### (1) LSU





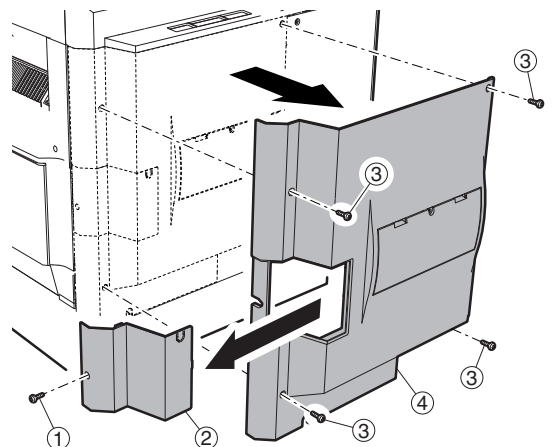
## J. Power unit

### (1) Power source

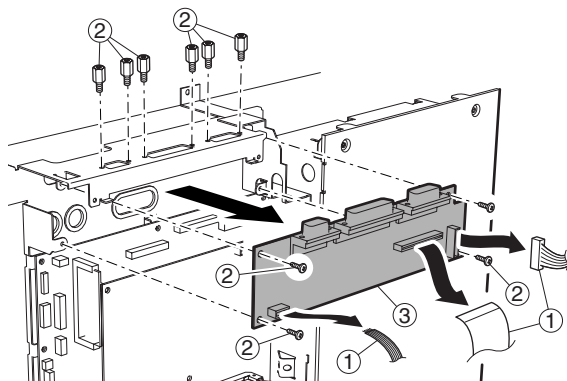


## K. PWB

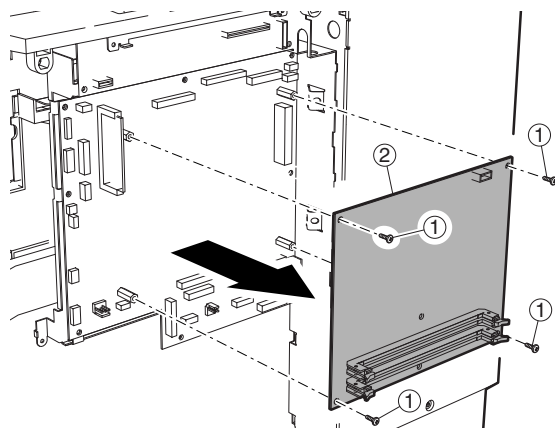
### (1) Option CN PWB



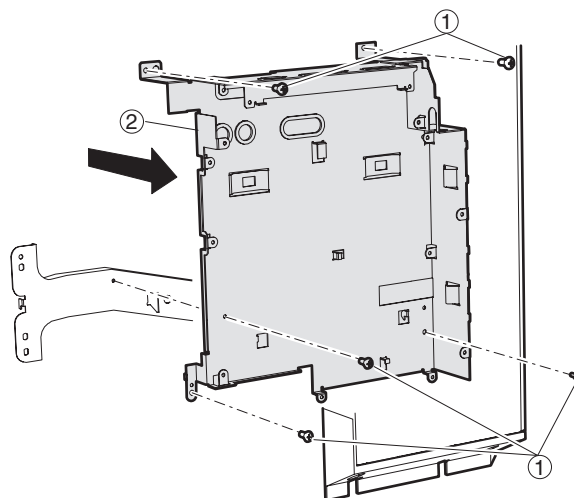
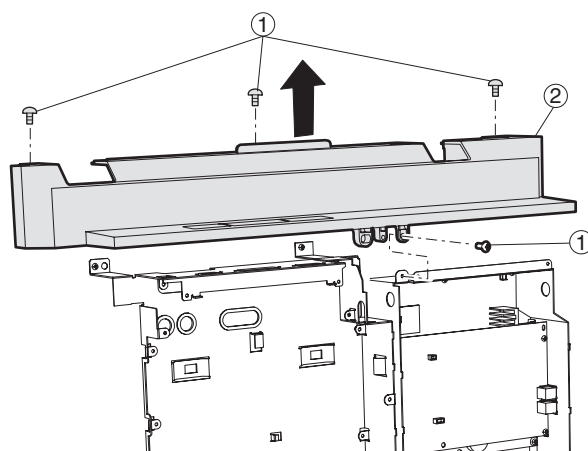
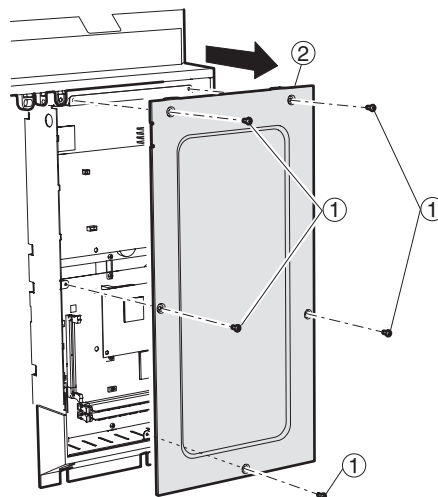
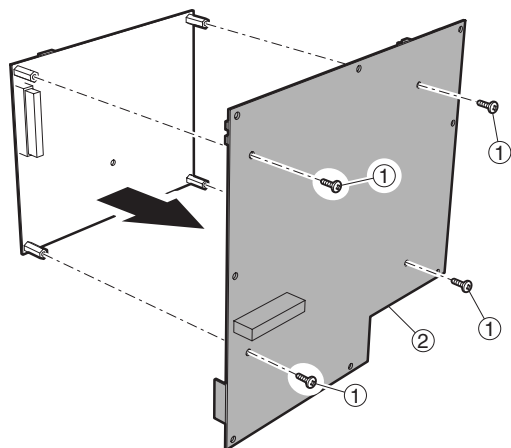
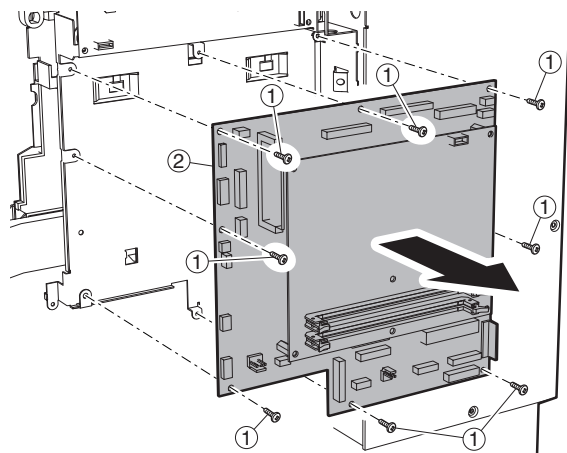
#### (4) Motherboard PWB



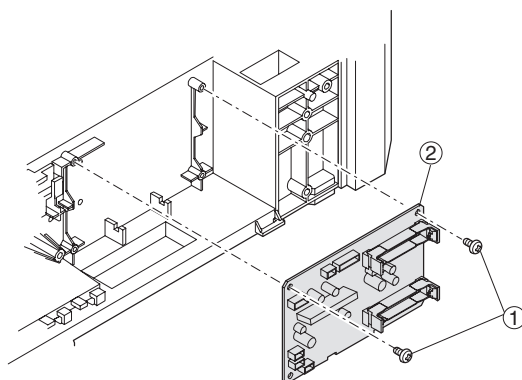
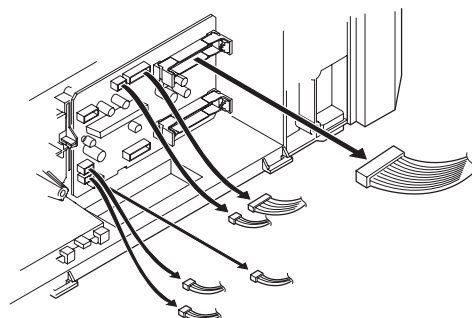
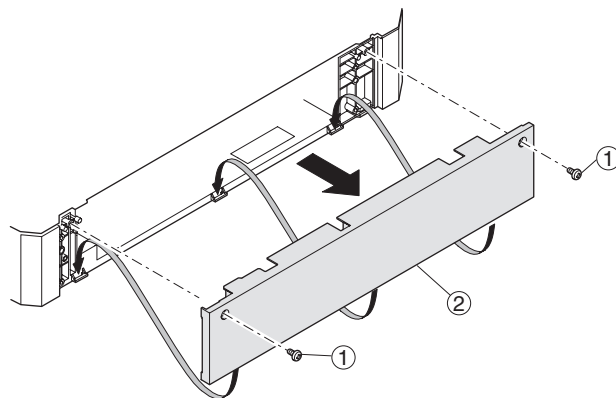
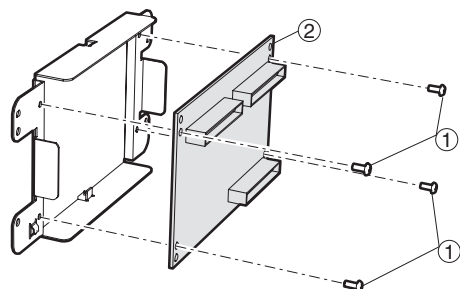
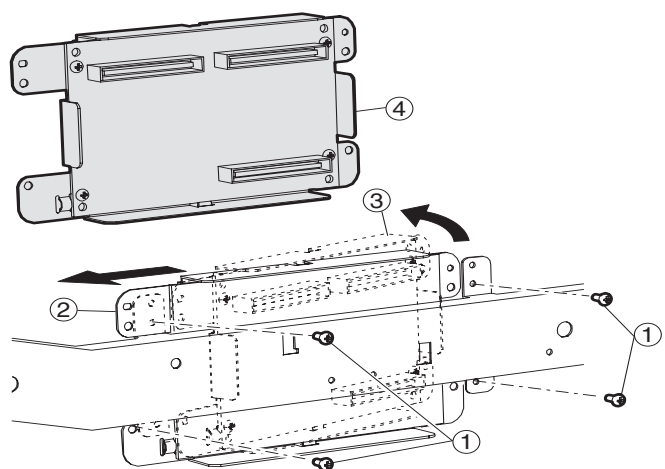
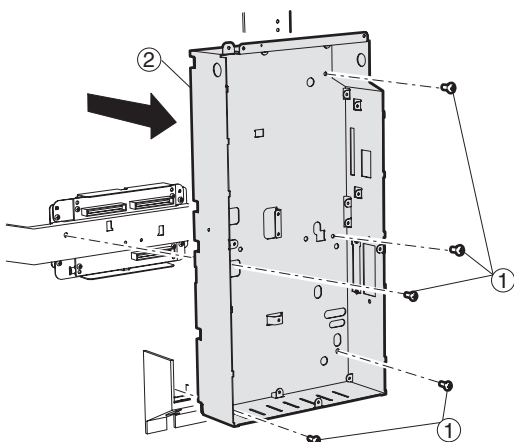
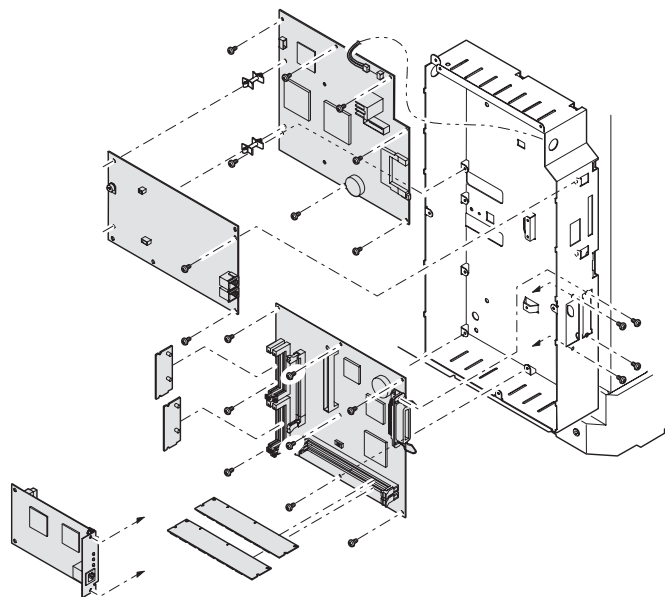
#### (2) IMC PWB



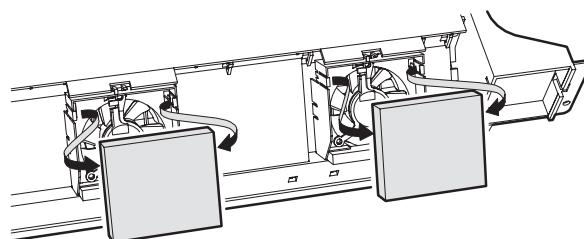
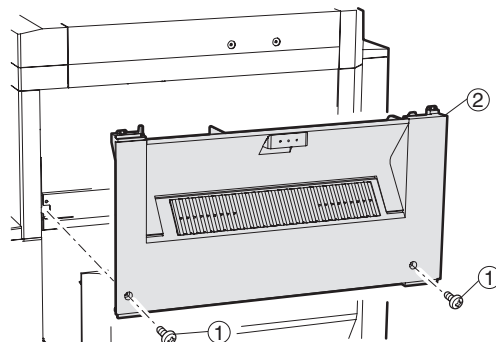
#### (3) MCU PWB



## (5) Second interface PWB

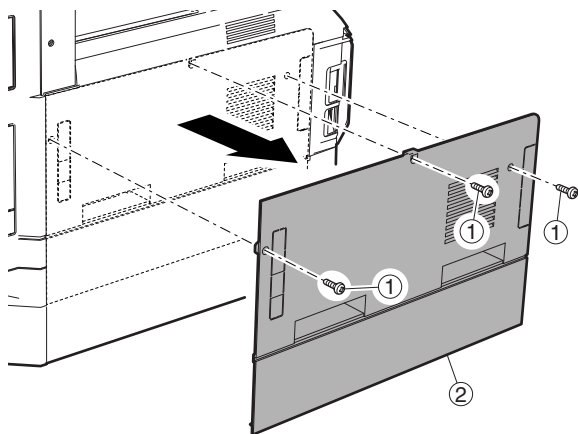


## L. Ozone filter



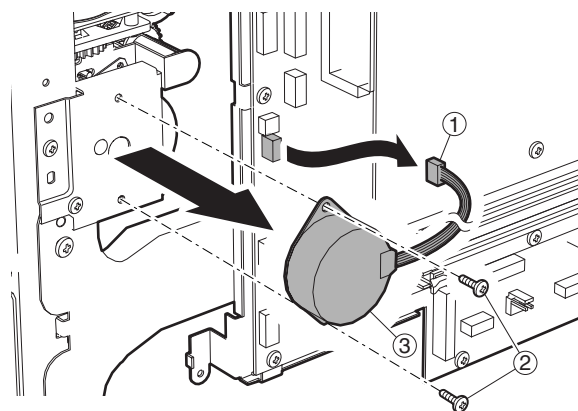
Note: Before removing the left cover, remove the No.1 cassette in advance.



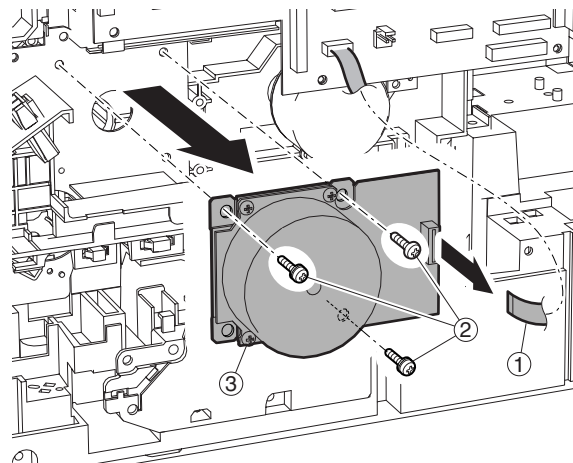


## M. Drive section

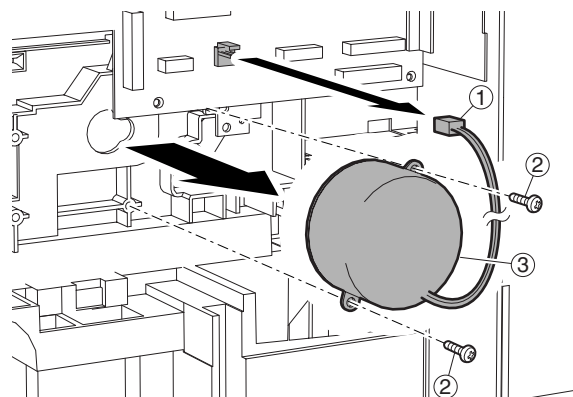
### (1) DUP reverse motor



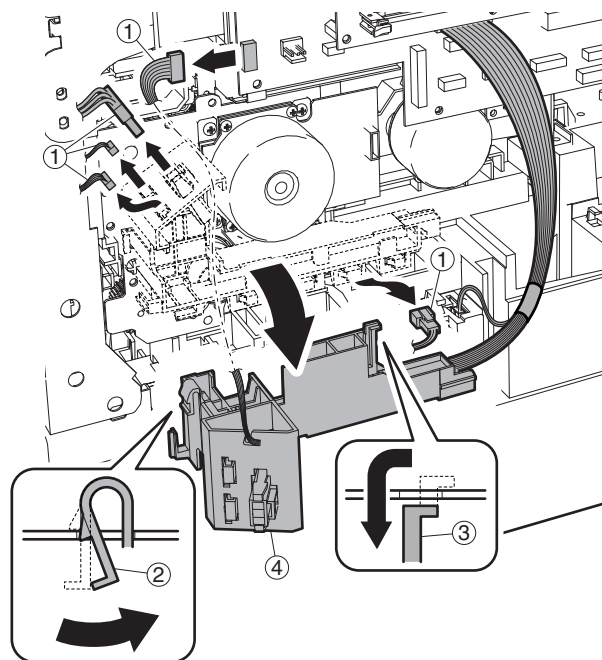
### (2) Main drive motor

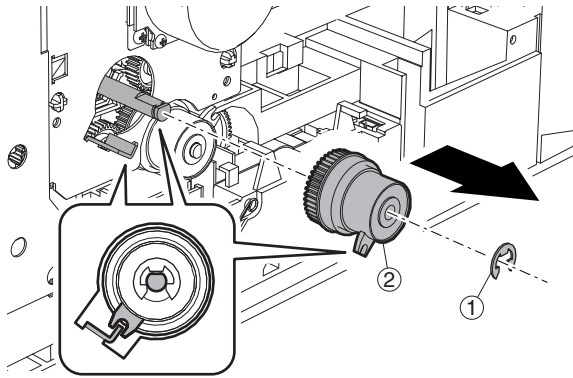


### (3) Toner motor

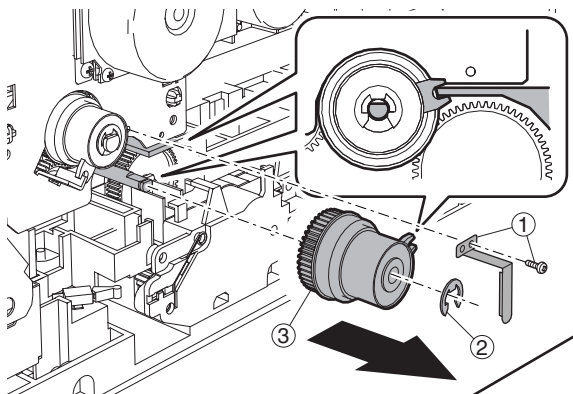
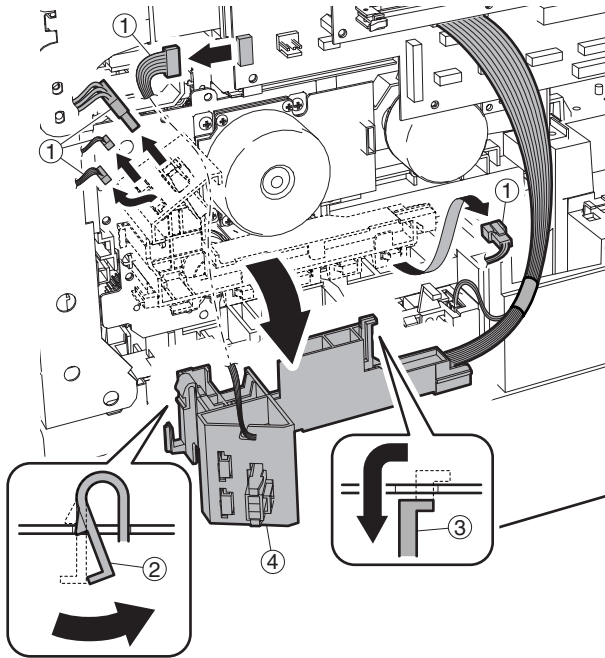


### (4) PS transport clutch

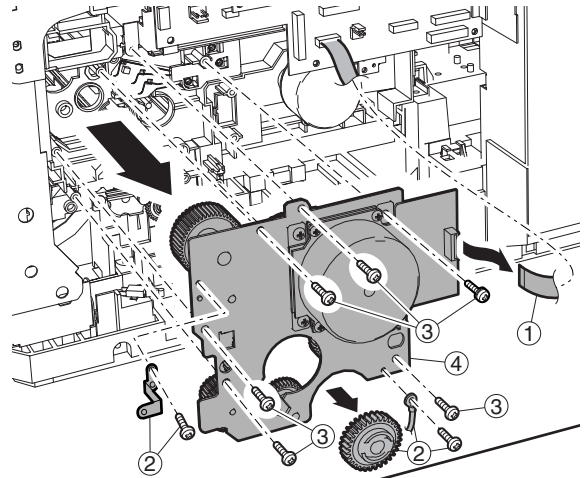




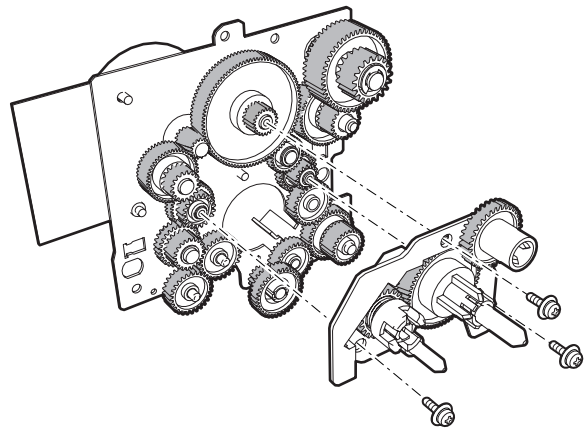
### (5) Paper feed clutch



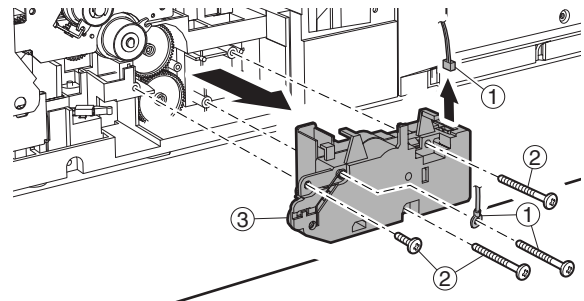
### (6) Drive unit

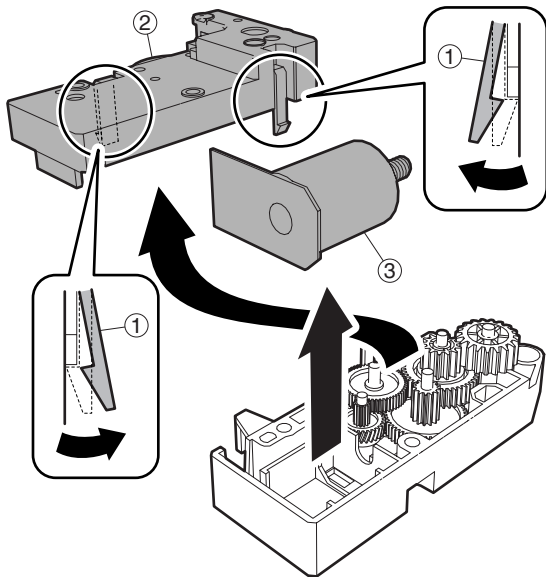


### Drive unit (Grease application part)



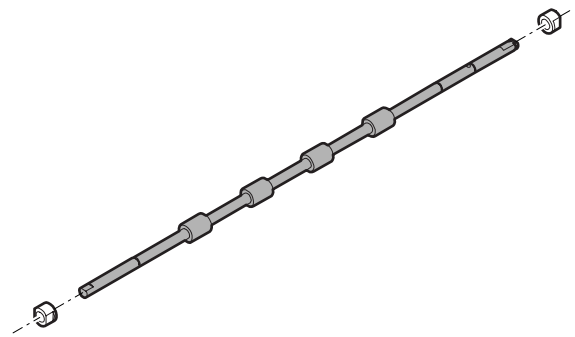
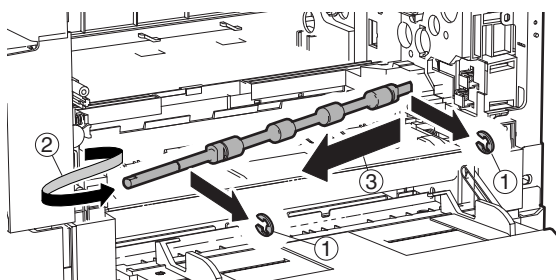
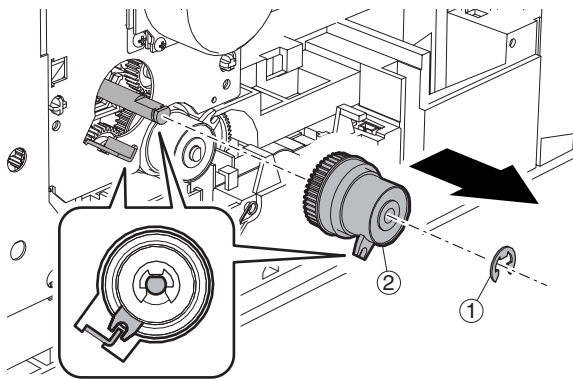
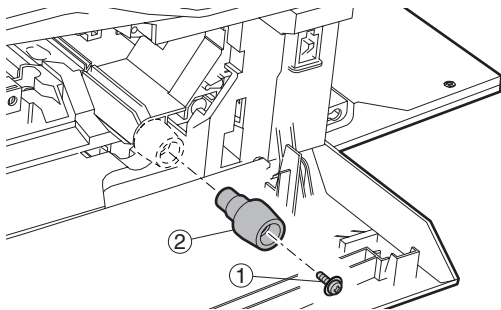
### (7) Lift up motor





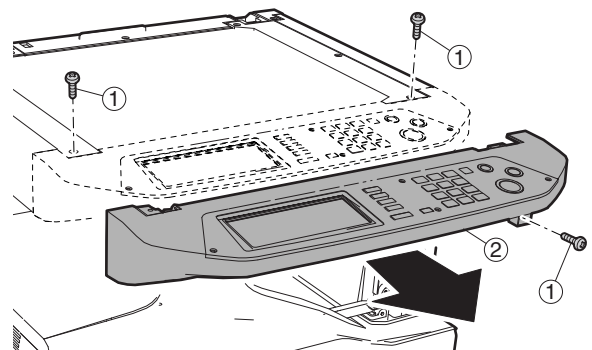
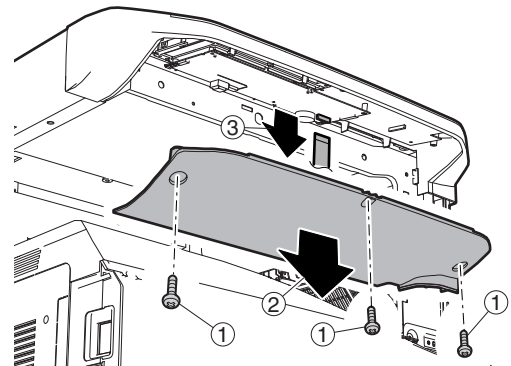
#### N. Transport section

##### (1) Transport roller

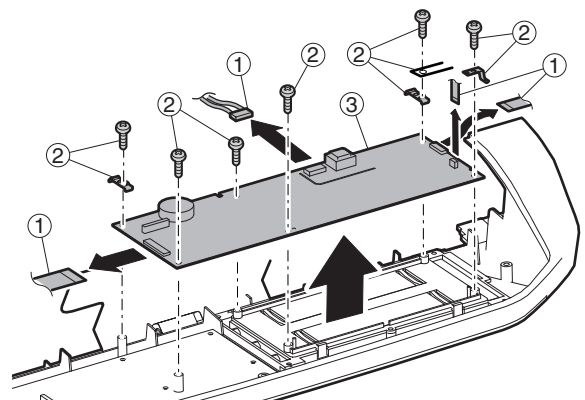


#### O. Operation section

##### (1) Operation section

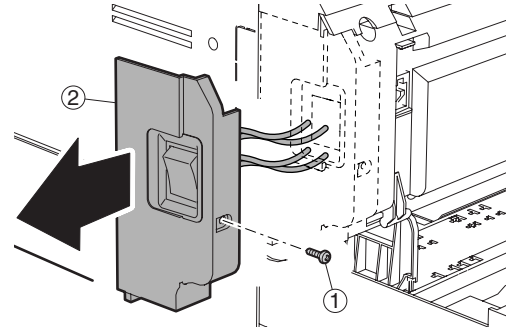
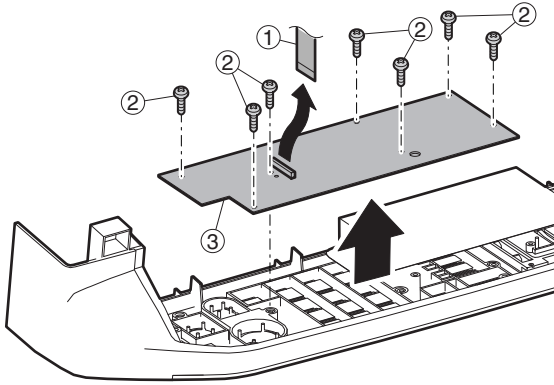


#### (2) OPU PWB

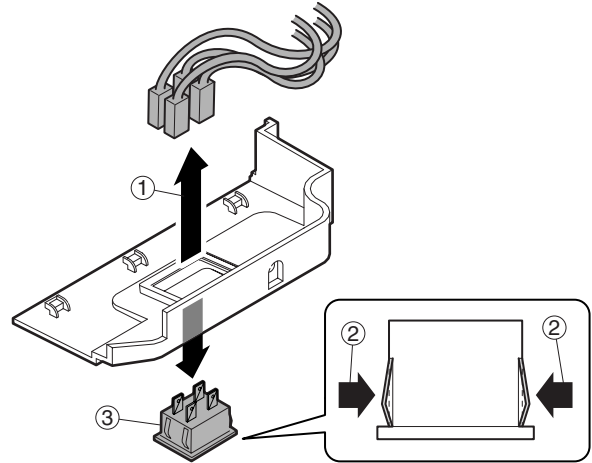
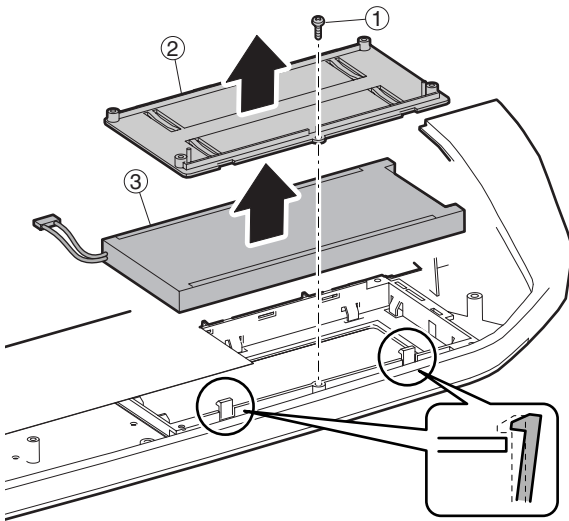




### (3) Key PWB

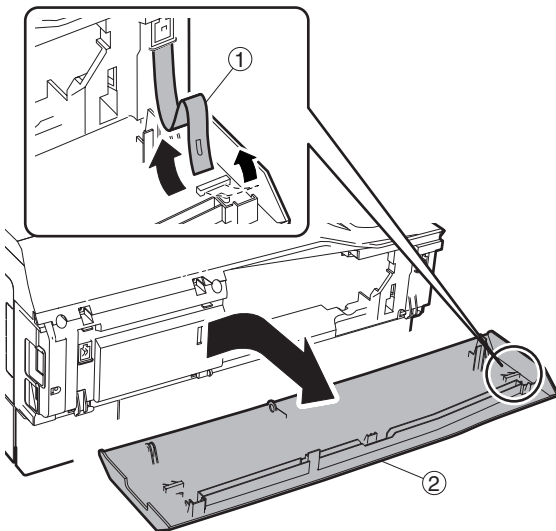


### (4) LCD unit



### P. Switch

#### (1) Power switch



## [11] OTHERS

### 1. Flash ROM version-up procedure

#### (Necessary items for version-up)

- A Personal computer
- B RS232C cross cable (D-sub 9pin to D-sub 9pin, or D-sub 25pin to D-sub 9pin)
- C Software for version-up

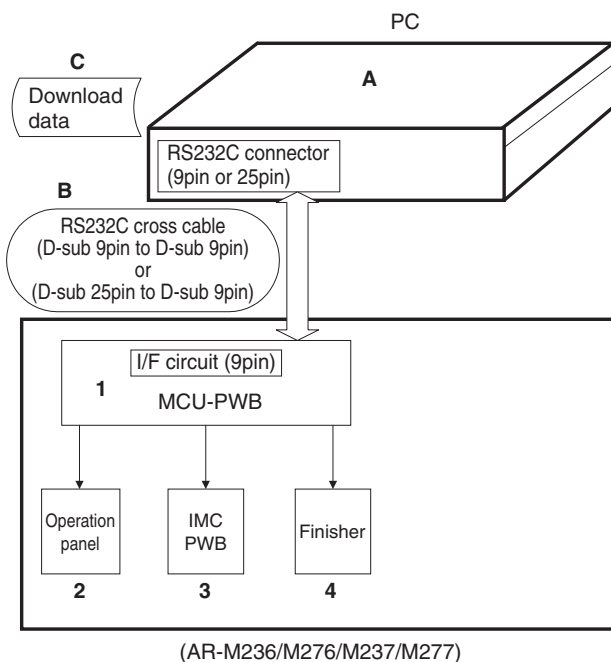
#### (ROM type)

The flash ROM is directly installed to each PWB.

#### (Target PWB)

- 1 MCU PWB
- 2 Panel PWB
- 3 IMC PWB
- 4 Finisher PWB

#### Outline of Version-up Procedure



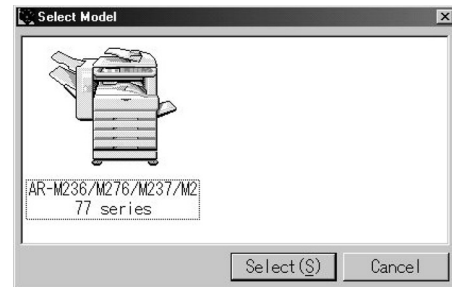
#### Prepare following files necessary for program download

- Maintenance software: maintenance.exe
- Andromeda module file: ProcModelC.mdl (for AR-M236/M276/M237/M277 series)

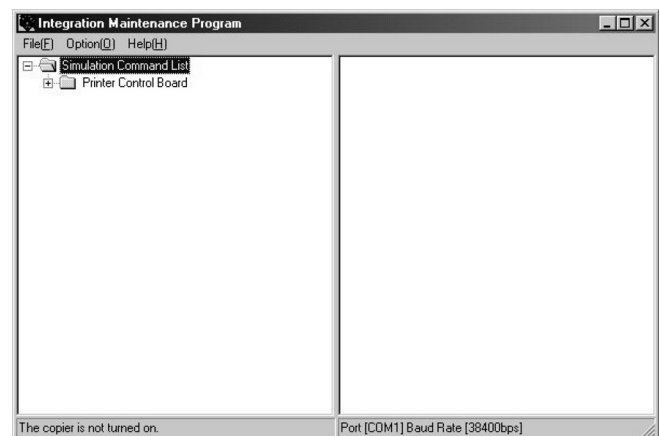
### A. Program download method (for Copier, and fax program)

Following operational procedures are for:

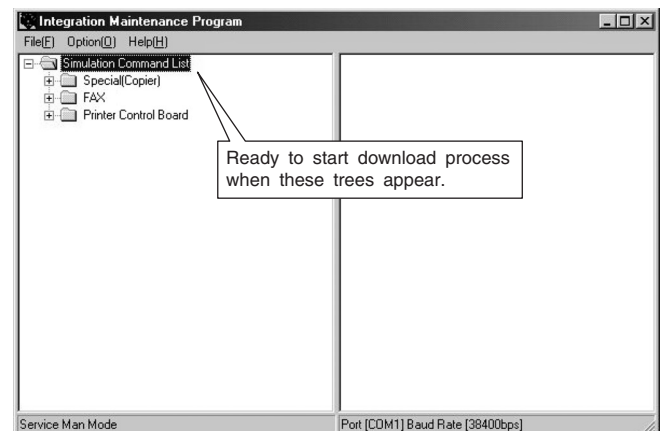
- Copier program
  - fax program
- 1) Make sure copier is off, and connect it to PC with download cable beforehand.
  - 2) Start up the maintenance program on PC. Select model name "AR-M236/M276/M237/M277 Series" from the model selection dialogue box.



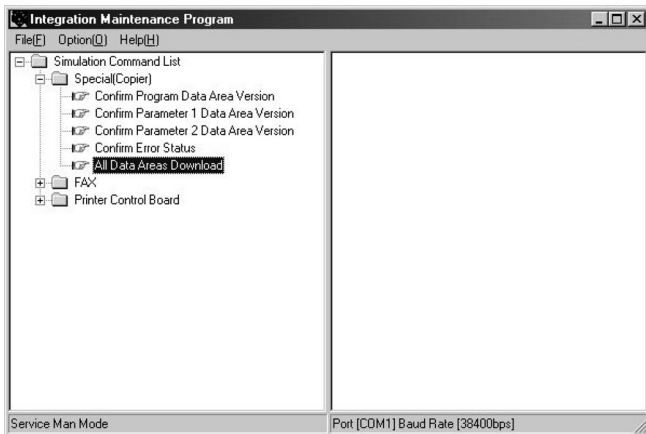
- 3) Make sure only "Printer Control Board" tree is visible under "Simulation Command List".



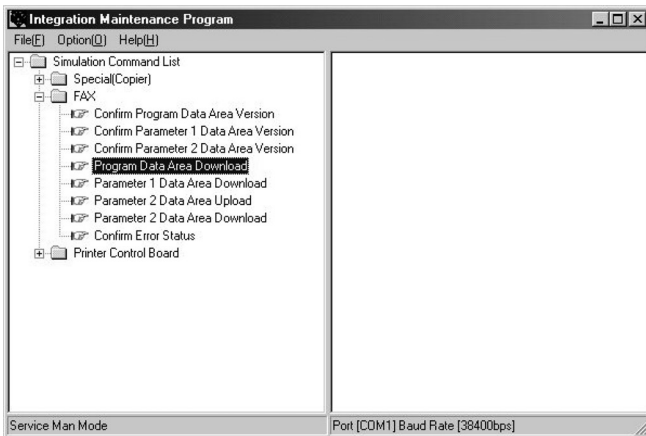
- 4) Turn on the copier. The machine starts up in the download mode.
  - 5) Additional tree will be visible when downloading maintenance program on PC.
- \* Make sure to start up maintenance program before turn on the machine.



- 6) When downloading copier program, expand "Special(Copier)", and double-click on "All Data areas Download".



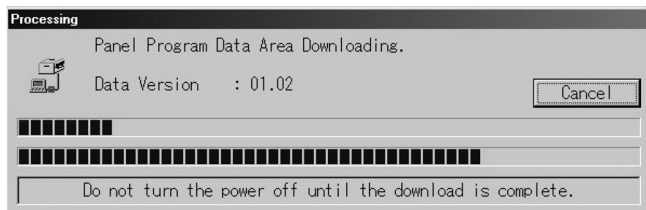
When downloading Fax program, Expand "FAX" and double click on "Program Data Area Download".



- 7) Select download file(\*.dat), and press "Open" button.



- 8) Download procedure starts automatically.



- 9) Notice message "Download is complete. Check the copier panel to make sure the download is complete." will appear on PC.  
10) Close the maintenance program, and turn off the copier. Turn on the copier again after pulling the plug.

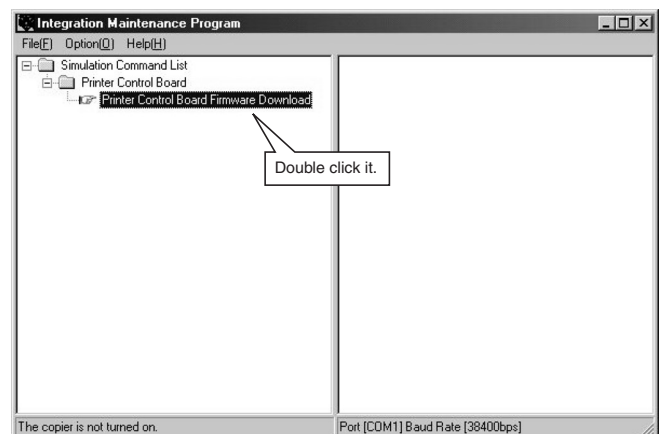
This is the end of download procedure.

- \* It is possible that download process somehow went wrong if the copier does not start up properly. In that case, start up the copier and maintenance program in download mode by repeating the step 1)-5) again. And then, Expand "Special", and double-click on "Confirm Error Status". If any of the message besides "No error has been occurred" appears, it means that download is incomplete, so please try again.

## B. Printer Control Board firmware download method

Please follow the procedure below:

- 1) Make sure copier is turned off, and connect PC and Printer Control board of the copier by parallel cable beforehand.
- \* Note: It is okay to use serial cable instead.
- 2) Turn on the copier.
- 3) Start up in copier test command mode, and execute Sim67-14 "FLASHDOWNLOAD".
- 4) And then, press OK key when notice message "PRESS OK KEY" appears on the panel. Another message "Please Send Data" will appear after a while.
- 5) Start up the maintenance program on PC. Select model name "AR-M236/M276/M237/M277 Series" from the model selection dialogue box.
- 6) Expand "Printer Control Board", and double-click on "Printer Control Board Firmware Download".



- 7) Dialog box will appear to select download file.



- 8) Select Download file(\*.sfu) and press "Open" button.
- 9) Download procedure will starts automatically.
- 10) Notice message "Data Send Complete" will appear on PC.
- 11) Notice message "Download is complete. Check the copier panel to make sure the download is complete." will appear on PC.
- 12) Close maintenance program, and reset the machine by pressing CA key.

This is the end of the download procedure.

## C. Others (Troubleshooting)

Followings are the error possibly occur during the download process and troubleshooting method.

| No | Warning/error message  | Detail   |
|----|--|--|
| 1  | Incorrect destination. Continue with the download process?                             | Destination of download file and copier doesn't match.<br>Possible to select either continue or cancel the job.<br>[TROUBLESHOOTING]<br>To change destination, select "Yes". If not, select "No" and cancel download process.  |
| 2  | Incorrect download file.   | Invalid download file for the machine is selected, or the file format is not correct.<br>[TROUBLESHOOTING]<br>Confirm the download file. Possibly the improper download file is selected.  |
| 3  | No downloadable data included.   | Unable to find appropriate data in selected download file.<br>[TROUBLESHOOTING]<br>Confirm the download file. Possibly the improper download file is selected.   |
| 4  | This option not available.   | Download procedure is executed on uninstalled optional kit.<br>[TROUBLESHOOTING]<br>Confirm installed optional kit.<br>Confirm the download file. Possibly the improper download file is selected.   |
| 5  | The data size exceeds the Flash ROM size. Try again with the appropriate size of data. | Panel flash ROM size is not enough to execute download procedure.<br>[TROUBLESHOOTING]<br>Confirm the download file. Possibly the improper download file is selected.<br>Exchange the flash ROM to the one which has more capacity.  |
| 6  | Time out error.  | Transmission error<br>Unable to receive data from the machine among the certain period of time.<br>[TROUBLESHOOTING]<br>Restart maintenance program after confirming communication port or communication cable.  |
| 7  | Communication (incoming) error.  | Incorrect download procedure.<br>The machine did not proceed download procedure correctly.<br>[TROUBLESHOOTING]<br>Restart maintenance program after confirming communication port or communication cable.<br>Make sure the communication device of PC(either COM or parallel) is under right condition. |
| 8  | Checksum error.  | Transmission error<br>The check sum value of the transmission data is mismatch.<br>[TROUBLESHOOTING]<br>Restart maintenance program after confirming communication device of PC (either COM or parallel) is under right condition.   |
| 9  | Error during the download process. Error code: 0XXXXXXXXX                              | Download data file operation error.<br>[TROUBLESHOOTING]<br>Restart maintenance program after confirming the selected download file is not abnormal and not using other application.   |
| 10 | An error. [0XXXXXXXXX]   | The error occurred except the above errors.<br>[TROUBLESHOOTING]<br>Restart maintenance program after confirming communication device of PC(either COM or parallel) is under right condition.  |

## 2. Key operator program list

Note: Some programs on the key operator program list may be unavailable depending on the machine and installing status of various peripheral devices.

### A. Common program of digital copier

|                    | Key operator programs           | Set value (*: Default value)              | Remarks   |
|--------------------|---------------------------------|---|---|
| Account control    | Auditing mode                   | ON / OFF*                                 | When this is set to ON, the department number must be registered in the "Account number control". |
|                    | Total pages per account         | —   |   |
|                    | Resetting account               | —   |   |
|                    | Account number control          | —   |   |
|                    | Account limit setting           | —   |   |
|                    | Account number security         | ON / OFF*                                 |   |
|                    | Cancel jobs of invalid accounts | ON / OFF*                                 |   |
| Energy save        | Auto power shut-off             | ON* / OFF                                 |   |
|                    | Auto power shut-off timer       | 1 – 240 (Increment of 1min.) 60 (min.)*   | Effective only when the "Auto power shut-off" is set to ON.                                       |
|                    | Preheat mode setting            | 1 – 240 (Increment of 1min.) 15 (min.)*   |   |
|                    | Toner save mode                 | ON / OFF*                                 | This is not displayed for SUK.  |
| Operation settings | Auto clear setting              | 10 – 240 (Increment of 10sec.) 60 (sec.)* |   |
|                    | Message time setting            | 1 – 12 (Increment of 1sec.) 6 (sec.)*     |   |

| Key operator programs                                |   |                                   | Set value (*: Default value)  | Remarks  |
|--|---|-----------------------------------|---|--|
| Operation settings                                   | Keys touch sound  | Keys touch sound                  | Short* / Long   |  |
|  |   | Keys touch sound at initial point | ON / OFF*   |  |
|  | Touch key operation setting                                 | Time to entry                     | 0.0 – 2.0 (Increment of 0.5sec.) 0.0 (sec.)*  |  |
|  |   | Disable auto key repeat           | ON / OFF*   |  |
|  | Disable interrupt print job                                 |                                   | ON / OFF*   | When the printer function is valid.  |
|  | Stream feeding mode   |                                   | ON / OFF*   | When the reversing single pass feeder installed.   |
|  | Display language setting                                    |                                   | The number of languages to be set and the default value differ depending on destinations. | [List of languages to be set]<br>American English, English, Spanish, French, German, Italian, Hungarian, Czech, Polish, Russian, Greek, Turkish, Slovak, Dutch, Swedish, Norwegian, Finnish, Danish, Portuguese, Hebrew, Simplified Chinese, Traditional Chinese |
|  | Disable display timeout                                     |                                   | ON / OFF*   |  |
|  | Disable of tray settings                                    |                                   | ON / OFF*   |  |
| Device control                                       | Disabling of document feeder                                |                                   | ON / OFF*   | When the reversing single pass feeder installed.   |
|  | Disabling of duplex   |                                   | ON / OFF*   |  |
|  | Disabling of stapler  |                                   | ON / OFF*   | When the finisher installed.   |
|  | Output trays  |                                   | Pattern 1* / Pattern 2 / Pattern 3 / Pattern 4  | When an option of paper exit series is installed.  |
|  | Offset function setting                                     |                                   | ON* / OFF   |  |
|  | Memory for printer<br>(When the printer function is valid.) |                                   | 30 / 40 / 50* / 60 / 70%  |  |
|  |   | Memory area for print hold        | 0 / 30* / 40 / 50 / 60 / 70%<br>(0%: Function inhibited)                                  | When the PCL printer expansion board is installed or the model with the board.   |
|  | Disabling of center tray counting                           |                                   | ON / OFF*   |  |
|  | Return from copy mode timing                                |                                   | 1 – 60 (Increment of 1sec.) 60 (sec.)*  | When the printer function or the FAX function is valid.  |
| Key operator code change                             | MIX size original feeding mode                              |                                   | ON / OFF*   | When the reversing single pass feeder installed.   |
|  |   |                                   | 00000* (5 digits)   |  |
| Product key<br>(When the printer function is valid.) | PS3 expansion kit   |                                   | —   | When the printer function is valid.  |
|  | Network scanner expansion kit                               |                                   | —   | Appears when the printer expansion kit and expansion memory are installed.   |
|  | E-MAIL alert and status                                     |                                   | —   | When the PCL printer expansion board is installed or the model with the board.   |
|  | Serial number   |                                   | —   |  |

## B. Copy function setting program

| Key operator programs |                                    |  | Set value (*: Default value)           | Remarks  |
|-----------------------|------------------------------------|--|--|--|
| Copy settings         | Initial status settings            |  | —                                      |  |
|                       | Rotation copy setting              |  | ON* / OFF                              |  |
|                       | Exposure adjustment                |  | 1 / 2 / 3* / 4 / 5                     |  |
|                       | Auto paper selection setting       |  | Plain paper* / Plain and recycle paper |  |
|                       | Setting a maximum number of copies |  | 1 – 999 999*                           |  |
|                       | Sort auto select                   |  | ON* / OFF                              | When the reversing single pass feeder installed. |
|                       | Disabling deletion of job programs |  | ON / OFF*                              |  |

## C. Printer function setting program

| Key operator programs |                               |  | Set value (*: Default value) | Remarks  |
|-----------------------|-------------------------------|--|------------------------------|--|
| Print settings        |                               |  |                              |  |
| Default settings      | Prohibit notice page printing |  | ON / OFF*                    |  |
|                       | Print density level           |  | 1 / 2 / 3* / 4 / 5           |  |
|                       | Prohibit test page printing   |  | ON / OFF*                    | When the PCL printer expansion board is installed or the model with the board. |
|                       | Rotated print                 |  | ON* / OFF                    |  |
|                       | Forced output of print        |  | ON / OFF*                    |  |
|                       | Excluded bypass-tray from ATS |  | ON* / OFF                    |  |

| Key operator programs  |                                   | Set value (*: Default value)   | Remarks   |
|--|-----------------------------------|--|---|
| Default settings   | Disable default setting changes   | ON / OFF*  | When the PCL printer expansion board is installed or the model with the board.  |
| Interface settings   | Hexadecimal dump mode             | ON / OFF*  | When the PCL printer expansion board is installed or the model with the board.  |
|  | I/O timeout                       | 1 – 999 (Increment of 1sec.) 180 (sec.)*<br>(60 (sec.)*: When the PCL printer expansion board is installed or the model with the board.) |   |
|  | Parallel port emulation switching | Auto* / PostScript (When the PS3 expansion kit is installed.) / PCL  | When the PCL printer expansion board is installed or the model with the board.  |
|  | USB port emulation switching      | Auto / PostScript (When the PS3 expansion kit is installed.) / PCL*  | When the PCL printer expansion board is installed or the model with the board.  |
|  | Network port emulation switching  | Auto* / PostScript (When the PS3 expansion kit is installed.) / PCL  | When the PCL printer expansion board is installed or the model with the board.  |
|  | Port switching method             | Switch at end of job* / Switch after I/O timeout   | When the PCL printer expansion board is installed or the model with the board.  |
|  | Enable parallel port              | ON* / OFF  | When the PCL printer expansion board is installed or the model with the board.  |
|  | Enable USB port                   | ON* / OFF  | When the PCL printer expansion board is installed or the model with the board.  |
|  | Enable network port               | ON* / OFF  | When the print server card is installed.  |
|  | Enable ECP                        | ON / OFF*  | When the PCL printer expansion board is installed or the model with the board.  |
| Network settings<br>(When the print server card installed.)  | IP address setting                | DHCP: ON* / OFF  | When the PCL printer expansion board is installed or the model with the board (Also displayed when the print server card is not installed.)<br>To enable the changed setup, the power must be rebooted. |
|  | Enable TCP/IP                     | ON* / OFF  | To enable the changed setup, the power must be rebooted.  |
|  | Enable NetWare                    | ON* / OFF  |   |
|  | Enable EtherTalk                  | ON* / OFF  |   |
|  | Enable NetBEUI                    | ON* / OFF  | When the PCL printer expansion board is installed or the model with the board (Also displayed when the print server card is not installed.)To enable the changed setup, the power must be rebooted.     |
|  | Reset the NIC                     | —  |   |
| Initialize and/or store settings<br>(When the PCL printer expansion board is installed or the model with the board.) | Restore factory default           | —  |   |
|  | Store current configuration       | —  |   |
|  | Restore configuration             | —  | Reboot is required only when the network setting is changed.  |

#### D. Network scanner function setting program

| Key operator programs                                     |  | Set value (*: Default value)   | Remarks                              |
|---|--|--|--------------------------------------|
| Scanner settings<br>(When the scanner function is valid.) | Initial file format setting                                | File type  | PDF / TIFF*                          |
|   |  | Compression mode   | No compression / MH (G3) / MMR (G4)* |
|   |  | Pages per file   | ALL*                                 |
|   | Initial quality setting                                    | Original image type  | TEXT / TEXT/PHOTO* / PHOTO           |
|   |  | Exposure   | Auto* / Manual (1 / 2 / 3 / 4 / 5)   |
|   | Initial resolution setting                                 | 200dpi / 300dpi* / 400dpi / 600dpi   | (400dpi: For China, Taiwan)          |
|   | Default display settings                                   | Condition settings* / Address book / Address book (ABC) / Address book (Group) |                                      |
|   | The number of direct address/sender keys displayed setting | 6 / 8* / 12 (pcs.)   |                                      |

### 3. E-mail Status/E-mail Alerts

#### A. Basic functions

- 1) Event driven type text message transmission by using MIB information of Printer control board.
- 2) Management information which body has is coded and transmitted in a file type according to the schedule or in the event driven type. In this case, the specified mail software is used to receive and develop the data.

The above functions are available as standard provision only when the NIC card are installed.

For 2), the software key protect is made.

#### B. Main body specifications

The body provides event information to the controller. according to setup the file can be transmitted as an attached file as information for dealers. When a dealer's mail address is set, a file can be attached only to a mail which is transmitted to the mail address.

To read the attached file, the specified mail software is required. That is, the attached file includes numeral information of each main body and event information in coded state. If the other mail software is used to receive, the display contents on the client side cannot be guaranteed.

#### (2) Alert Message

| ID | Event            | Message                      | Condition   |
|----|------------------|------------------------------|---|
| 1  | Paper Jam        | !!! MISFEED HAS OCCURRED !!! | When paper/document jam has occurred. If a jam is detected when the power is turned ON or reset, checking is made again.  |
| 2  | Toner Low        | !!! TONER SUPPLY IS LOW !!!  | When toner LOW is detected for the first time. If toner LOW is detected when the power is turned ON or reset, checking is made again.   |
| 3  | Toner Empty      | !!! ADD TONER !!!            | When toner empty is detected for the first time. If toner empty is detected when the power is turned ON or reset, checking is made again.   |
| 4  | Paper Empty      | !!! LOAD PAPER/XXX !!!       | When paper empty is detected for the first time. If paper empty is detected when the power is turned ON or reset, checking is made again. No information on the number of steps of trays. Manual feed is not supported. When a tray empty is detected, information of all the trays that are empty at that time is delivered. |
| 5  | Service Required | !!! CALL FOR SERVICE !!!     | When the machine enters the self-diagnosis mode. If detected when the power is turned ON or reset, checking is made again.  |
| 6  | PM Required      | !!! MAINTENANCE REQUIRED !!! | When the maintenance counter or the developer counter reaches the specified count. If detected when the power is turned ON or reset, checking is made again.  |

#### (3) Status Message

##### Counter information

When schedule driven is set, the total counter, the copy counter, and the printer counter are displayed in a mail address for general. These information items are supplied from the controller MIB. The "total counter" means the "effective paper counter" controlled by the MCU.

##### Timer information

For schedule drive message, the Printer controller controls transmission time by means, and transmits a mail.

Timer setup is made from the Web setup page.

#### C. Printer controller specifications

The controller supports the following transmission functions:

- Text mail transmission by event driven setup and schedule driven setup.
- Mail transmission with an attached file by event driven setup and schedule driven setup. For the attached file, the printer controller makes a file of information data from the MCU.
- It controls sending time and requests for the machine information at the sending time to the MCU.

##### (1) Additional machine information

Information to identify the machine. The user administrator manually enters this information by using a browser. The information is displayed in the text of the mail.

- \* These items of information are kept on the controller side or on the NIC side.
- Machine name
- Machine code
- Installation place

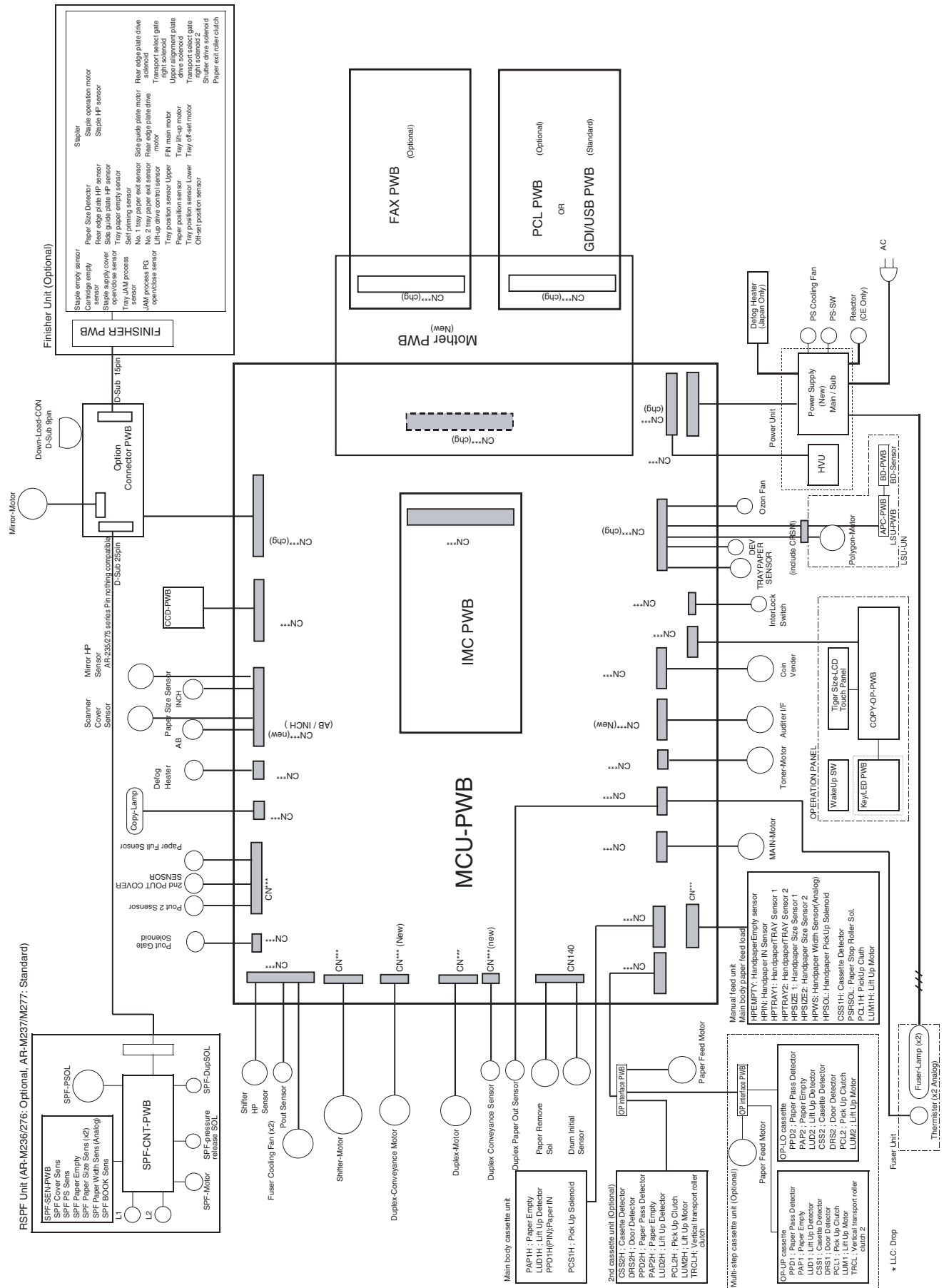
#### D. Handling of transmission data

In E-mail Alerts and E-mail Status, a transmission task is generated regardless of the job which is under process in the machine. These tasks are processed in the following rules:

- When the machine receives a mail transmission request during a job process (copy scan, copy output, print output, other process) of the machine, it performs transmission process regardless of the job.
- When the machine receives a mail transmission request under other situation, if the job is triggered during transmission process, the job is started.
- When the machine receives a mail transmission request during the simulation mode, the request is accepted and transmission process is started.
- When the machine receives a mail transmission request during the key operator program, it is accepted and transmission process is started.
- When the controller sends two or more requests during a job, only the last request is accepted.

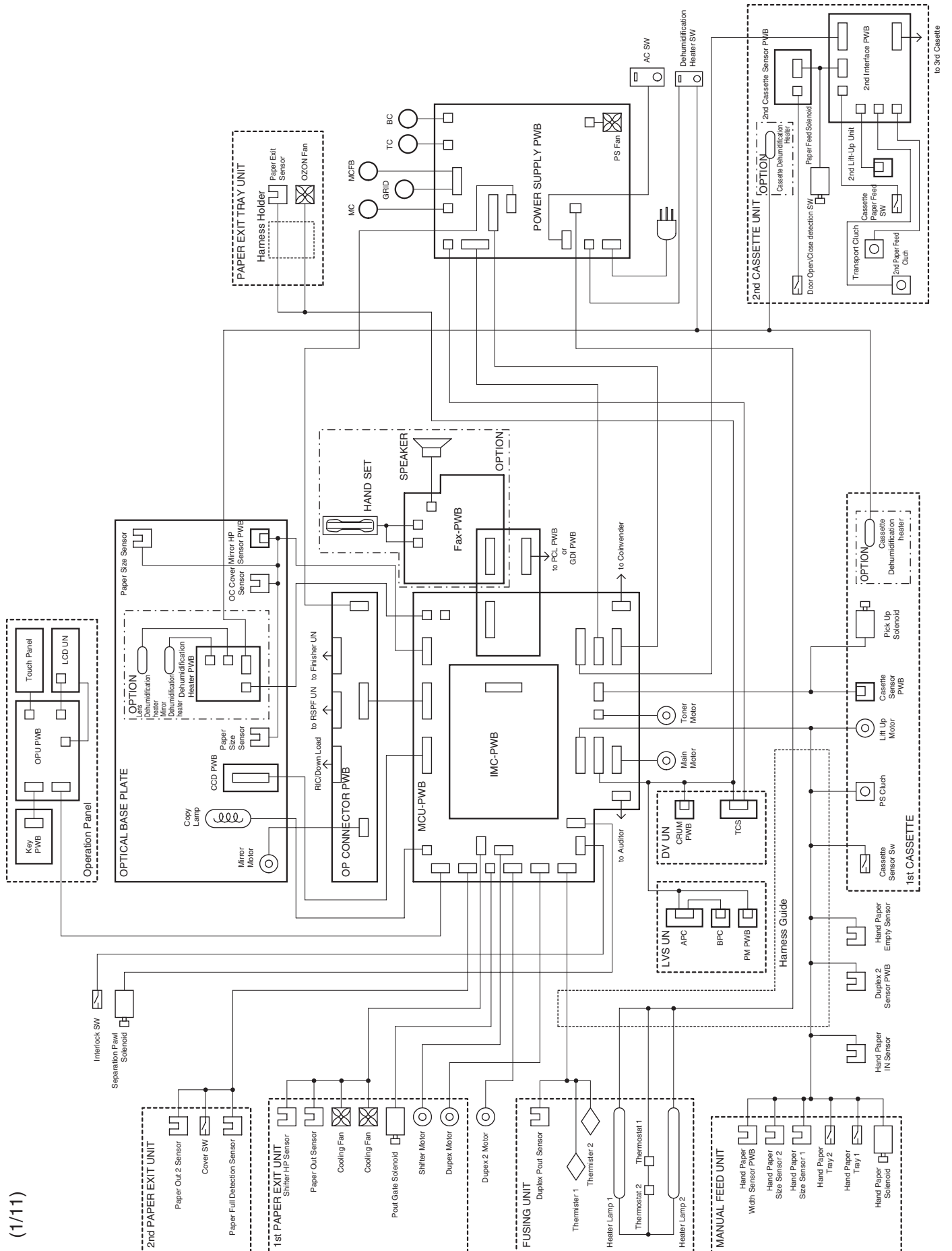
[12] ELECTRICAL SECTION

1. Block diagram

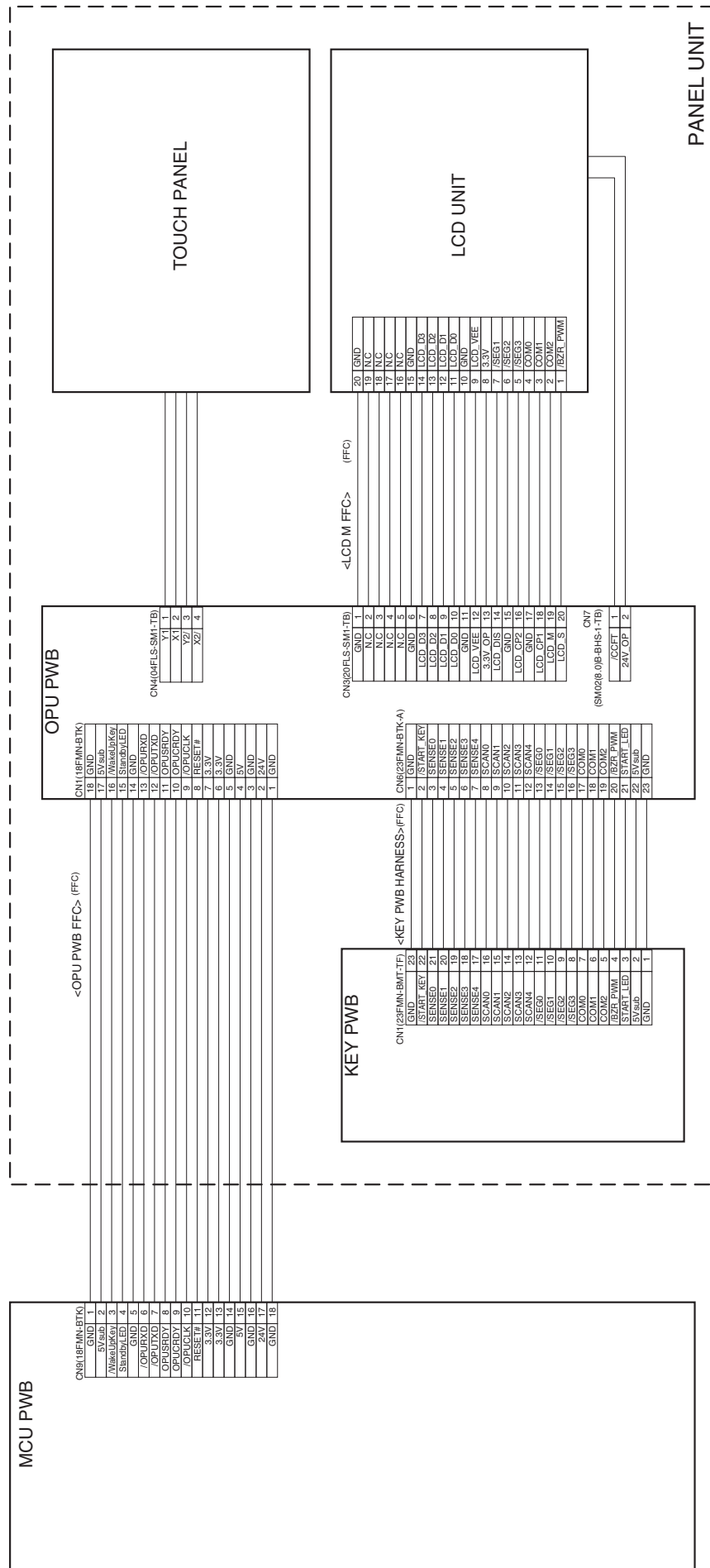




## 2. Actual wiring diagram



(1) MCU PWB - OPERATION PANEL UNIT (2/11)



(2) MCU PWB - OPTICAL BASE PLATE (SENSOR) (3/11)

MCU PWB

(AB ONLY)

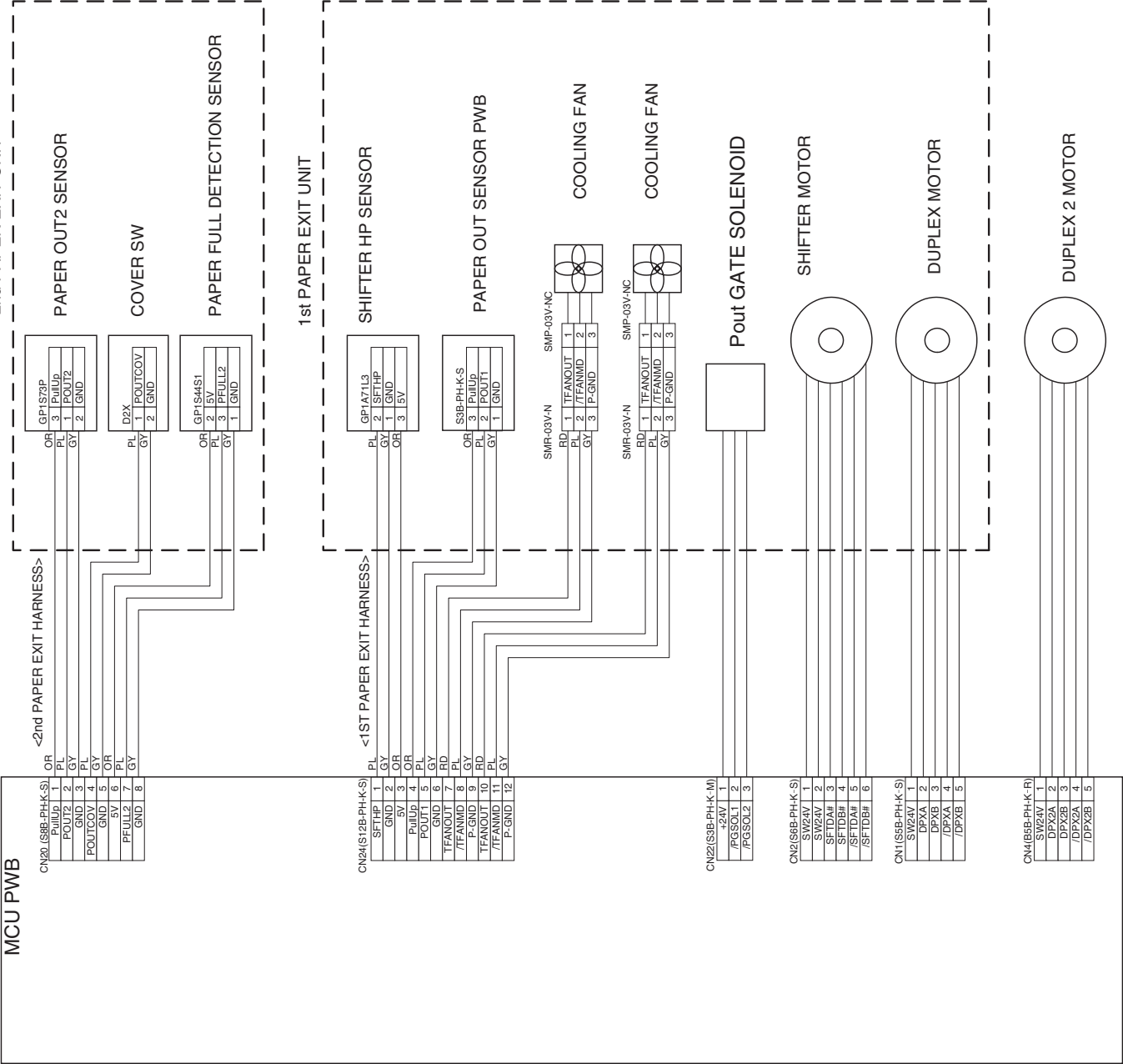
CN23(B34B-PHDSS-B)

|        |     |    |
|--------|-----|----|
| /ABJP  | 1   | GV |
| GND    | 2   | GV |
| LED1#  | 3   | GV |
| LED2#  | 5   | GV |
| LED3#  | 7   | GV |
| LED4#  | 9   | GV |
| GND    | 11  | GV |
| DSCLK# | 13  | GV |
| DSIN0  | 15  | GT |
| N.C    | 17  |    |
| N.C    | 18  |    |
| LED1#  | 19  | GV |
| LED2#  | 21  | GV |
| LED3#  | 23  | GV |
| 5V     | 25  | GV |
| GND    | 27  | GV |
| DSCLK# | 29  | GV |
| DSIN3  | 31  | GV |
| N.C    | 33  |    |
| N.C    | 34  |    |
| N.C    | 35  |    |
| N.C    | 36  |    |
| N.C    | 37  |    |
| N.C    | 38  |    |
| N.C    | 39  |    |
| N.C    | 40  |    |
| N.C    | 41  |    |
| N.C    | 42  |    |
| N.C    | 43  |    |
| N.C    | 44  |    |
| N.C    | 45  |    |
| N.C    | 46  |    |
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| N.C    | 94  |    |
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| N.C    | 97  |    |
| N.C    | 98  |    |
| N.C    | 99  |    |
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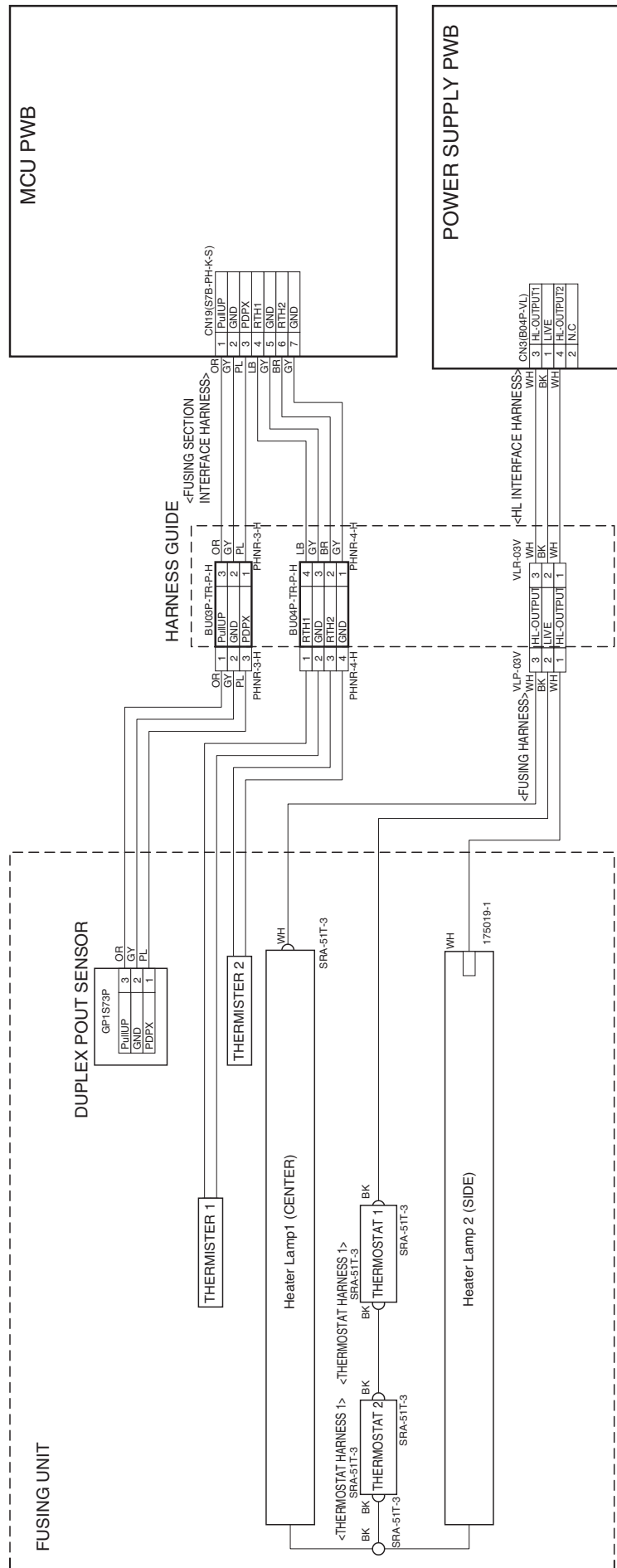
# OPTICAL BASE PLATE



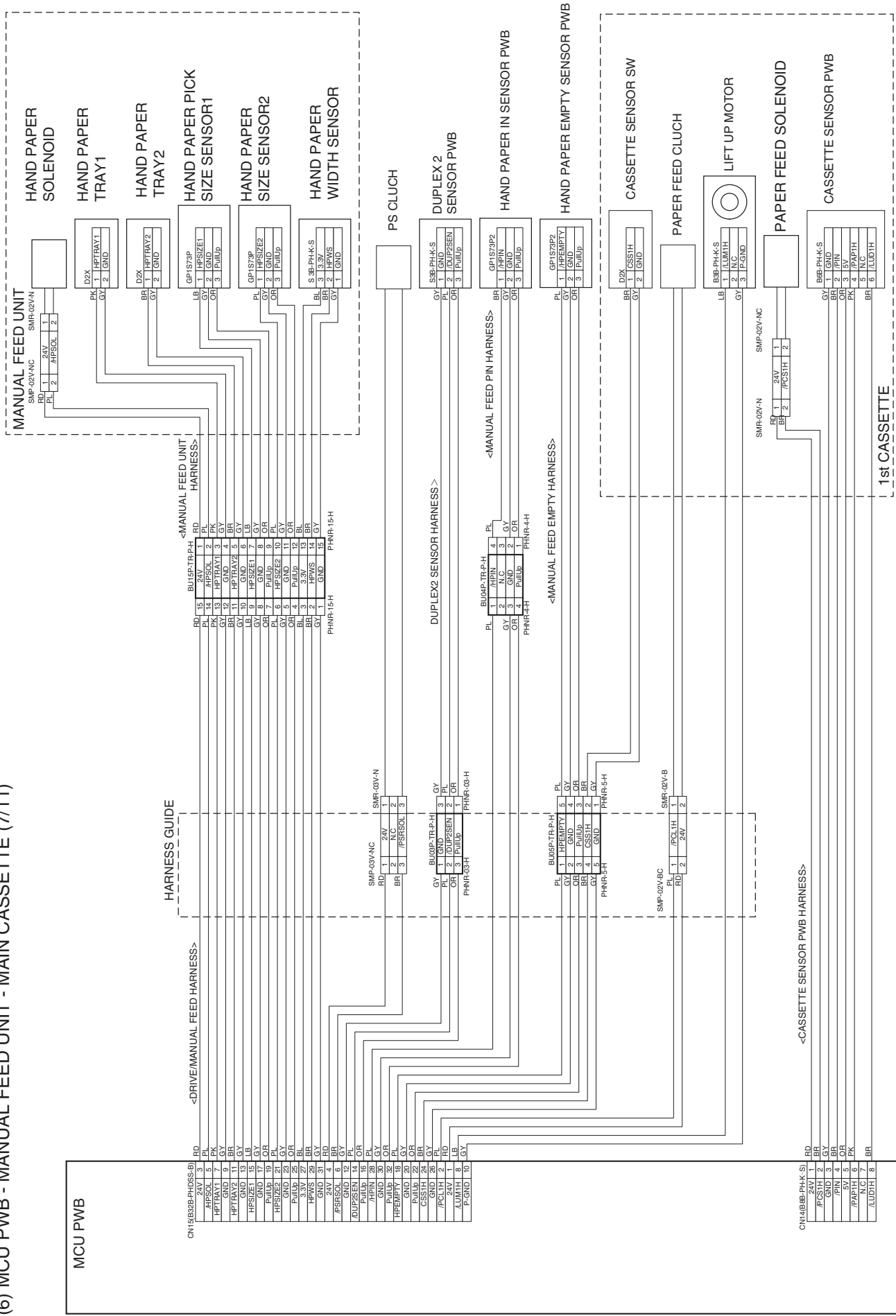
(4) MCU PWB - 1ST PAPER EXIT UNIT - 2ND PAPER EXIT UNIT (5/11)



(5) MCU PWB - FUSING UNIT - POWER SUPPLY PWB (6/11)



# (6) MCU PWB - MANUAL FEED UNIT - MAIN CASSETTE (7/11)



| MCU PWB        |  | ON10(B30S-PWSS-B) |
|----------------|--|-------------------|
|                |  | FW B2             |
|                |  | /P1 B2            |
|                |  | HOUT1 B-3         |
|                |  | HOUT2 B-4         |
|                |  | POUT1 B-3         |
|                |  | GND B-3           |
|                |  | GND B-7           |
|                |  | GND B-8           |
|                |  | 3.3V B-9          |
|                |  | 3.3V B-10         |
|                |  | 3.3V B-11         |
|                |  | 12V B-12          |
|                |  | /P5AN B-13        |
|                |  | 5V B-14           |
|                |  | 5V B-15           |
|                |  | GND B-16          |
|                |  | GND B-17          |
|                |  | 24VINT B-18       |
|                |  | 24VINT B-19       |
|                |  | 24VINT B-20       |
|                |  | GND B-21          |
|                |  | PGND B-22         |
|                |  | PGND B-23         |
|                |  | 3.3V B-24         |
|                |  | 3.3V B-25         |
|                |  | GND B-26          |
|                |  | GND B-27          |
|                |  | 5V B-28           |
|                |  | 5V B-29           |
|                |  | GND B-30          |
| ON12(B14B-K-S) |  |                   |
|                |  | NC D-1            |
|                |  | TDA* D-2          |
|                |  | NC D-3            |
|                |  | TCOIN D-3         |
|                |  | BPWM D-3          |
|                |  | MC D-6            |
|                |  | TC D-7            |
|                |  | D7 D-7            |
|                |  | /HVEL2 D-8        |
|                |  | /HVEL3 D-8        |
|                |  | /HVEL3 D-10       |
|                |  | GRIDL D-11        |
|                |  | BIAS D-12         |
|                |  | PGND D-13         |
|                |  | SW24V D-14        |



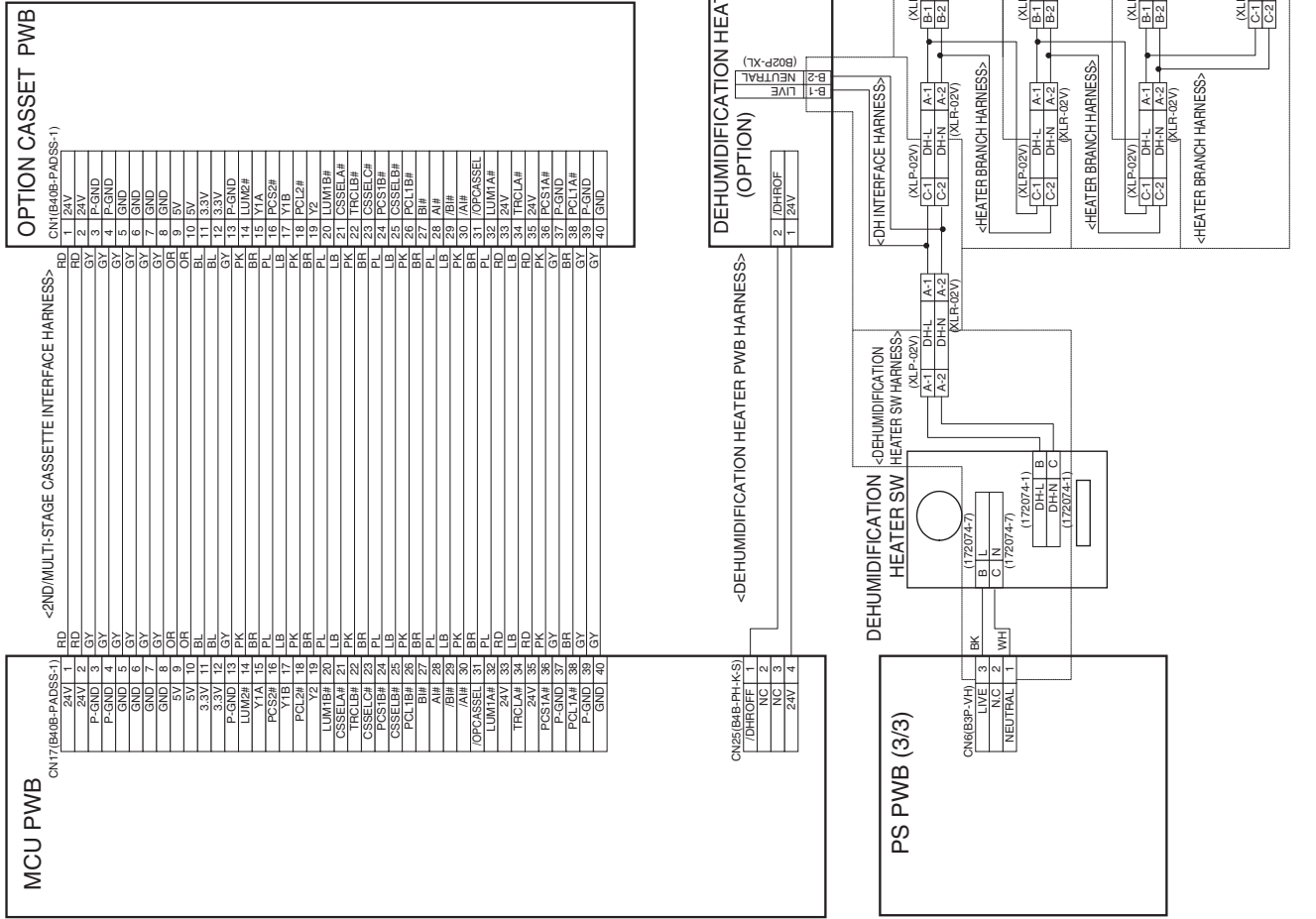


The diagram illustrates the electrical connections for the CRUM PWB (2/2) to various peripheral units. Key components and their connections include:

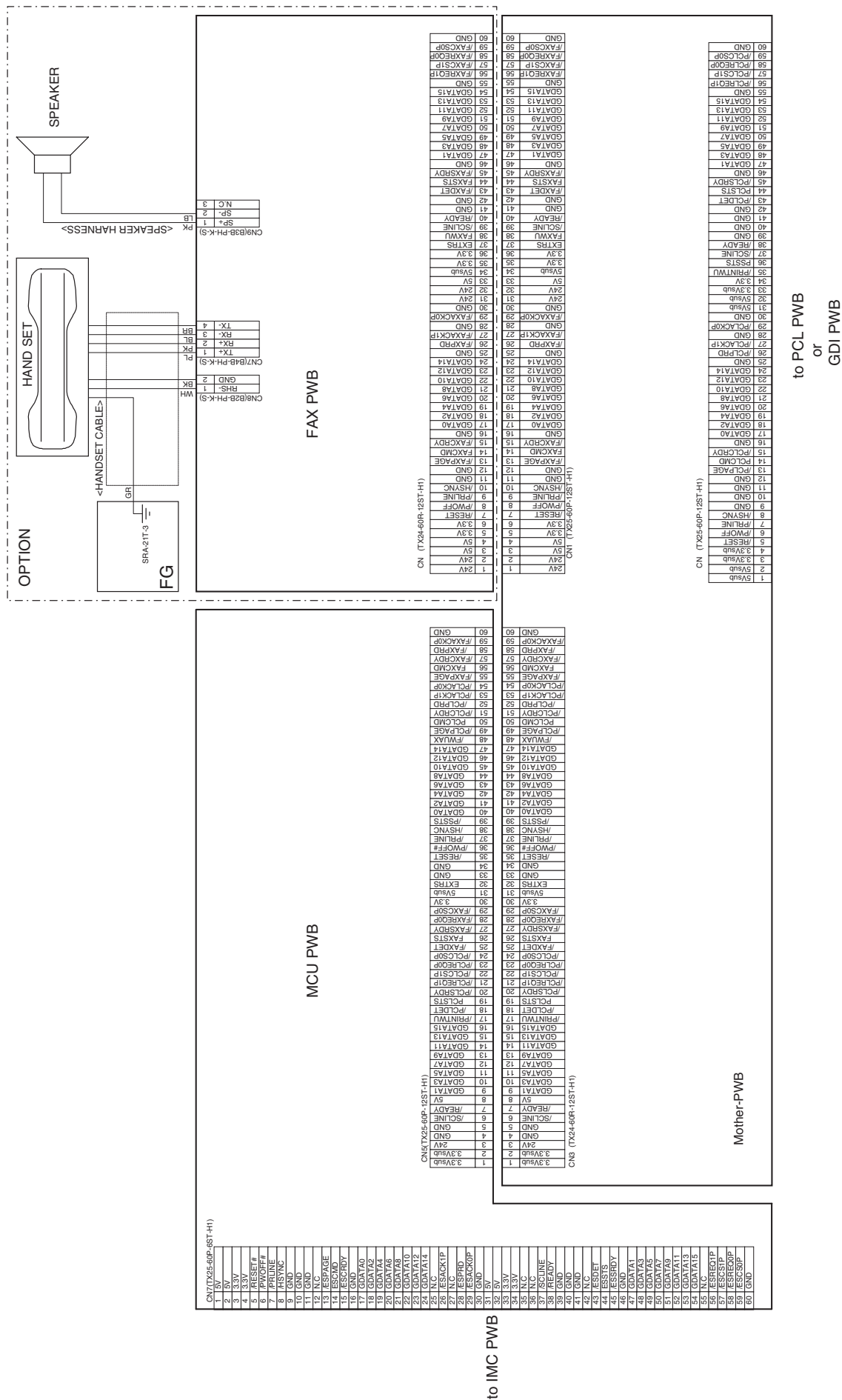
- OZON FAN:** Connected to the OZFAN pin header (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- PAPER EXIT SENSOR:** Connected to the PAPER EXIT SENSOR HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- PAPER EXIT TRAY:** Connected to the PAPER EXIT TRAY HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- P/S PWB (2/2):** Connected to the P/S PWB HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- TCS:** Connected to the TCS HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- CRUM PWB:** Connected to the CRUM PWB HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- DV UNIT:** Connected to the DV HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- LSM HARNES:** Connected to the LSM HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- APC:** Connected to the APC HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- BPC:** Connected to the BPC HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- PM PWB:** Connected to the PM PWB HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.
- LSU UNIT:** Connected to the LSU HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.

The diagram also shows the internal wiring of the CRUM PWB (2/2) and the connections to the P/S PWB (2/2) and the TCS. The P/S PWB (2/2) is connected to the P/S PWB HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The TCS is connected to the TCS HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The CRUM PWB is connected to the CRUM PWB HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The DV UNIT is connected to the DV HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The LSM HARNES is connected to the LSM HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The APC is connected to the APC HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The BPC is connected to the BPC HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The PM PWB is connected to the PM PWB HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector. The LSU UNIT is connected to the LSU HARNES (1: RD, 2: BR, 3: GY) via the SMP-03V-NC connector.

(9) MCU PWB - OPTION CASSETTE - DEHUMIDIFICATION HEATER (10/11)



(10) Boad to Boad (11/11)

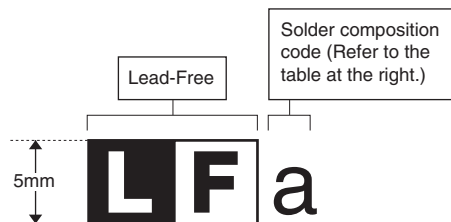


# LEAD-FREE SOLDER

The PWB's of this model employs lead-free solder. The "LF" marks indicated on the PWB's and the Service Manual mean "Lead-Free" solder.

The alphabet following the LF mark shows the kind of lead-free solder.

## Example:



<Solder composition code of lead-free solder>

| Solder composition | Solder composition code |
|--------------------|-------------------------|
| Sn-Ag-Cu           | a                       |
| Sn-Ag-Bi           | b                       |
| Sn-Ag-Bi-Cu        | b                       |
| Sn-Zn-Bi           | z                       |
| Sn-In-Ag-Bi        | i                       |
| Sn-Cu-Ni           | n                       |
| Sn-Ag-Sb           | s                       |
| Bi-Sn-Ag-P         | p                       |
| Bi-Sn-Ag           | p                       |

## (1) NOTE FOR THE USE OF LEAD-FREE SOLDER THREAD

When repairing a lead-free solder PWB, use lead-free solder thread.

Never use conventional lead solder thread, which may cause a break-down or an accident.

Since the melting point of lead-free solder thread is about 40°C higher than that of conventional lead solder thread, the use of the exclusive-use soldering iron is recommendable.

## (2) NOTE FOR SOLDERING WORK

Since the melting point of lead-free solder is about 220°C, which is about 40°C higher than that of conventional lead solder, and its soldering capacity is inferior to conventional one, it is apt to keep the soldering iron in contact with the PWB for longer time. This may cause land separation or may exceed the heat-resistive temperature of components. Use enough care to separate the soldering iron from the PWB when completion of soldering is confirmed.

Since lead-free solder includes a greater quantity of tin, the iron tip may corrode easily. Turn ON/OFF the soldering iron power frequently.

If different-kind solder remains on the soldering iron tip, it is melted together with lead-free solder. To avoid this, clean the soldering iron tip after completion of soldering work.

If the soldering iron tip is discolored black during soldering work, clean and file the tip with steel wool or a fine filer.

## CAUTION FOR BATTERY REPLACEMENT

(Danish) ADVARSEL !  
Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering.  
Udskiftning må kun ske med batteri  
af samme fabrikat og type.  
Levér det brugte batteri tilbage til leverandoren.

(English) Caution !  
Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type  
recommended by the manufacturer.  
Dispose of used batteries according to manufacturer's instructions.

(Finnish) VAROITUS  
Paristo voi räjähtää, jos se on virheellisesti asennettu.  
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan  
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden  
mukaisesti.

(French) ATTENTION  
Il y a danger d'explosion s' il y a remplacement incorrect  
de la batterie. Remplacer uniquement avec une batterie du  
même type ou d'un type équivalent recommandé par  
le constructeur.  
Mettre au rebut les batteries usagées conformément aux  
instructions du fabricant.

(Swedish) VARNING  
Explosionsfara vid felaktigt batteribyte.  
Använd samma batterityp eller en ekvivalent  
typ som rekommenderas av apparattillverkaren.  
Kassera använt batteri enligt fabrikantens  
instruktion.

(German) Achtung  
Explosionsgefahr bei Verwendung inkorrektter Batterien.  
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder  
vom Hersteller empfohlene Batterien verwendet werden.  
Entsorgung der gebrauchten Batterien nur nach den vom  
Hersteller angegebenen Anweisungen.

## CAUTION FOR BATTERY DISPOSAL

(For USA, CANADA)

"BATTERY DISPOSAL"  
THIS PRODUCT CONTAINS A LITHIUM PRIMARY  
(MANGANESE DIOXIDE) MEMORY BACK-UP BATTERY  
THAT MUST BE DISPOSED OF PROPERLY. REMOVE THE  
BATTERY FROM THE PRODUCT AND CONTACT YOUR  
LOCAL ENVIRONMENTAL AGENCIES FOR INFORMATION  
ON RECYCLING AND DISPOSAL OPTIONS.

"TRAITEMENT DES PILES USAGÉES"  
CE PRODUIT CONTIENT UNE PILE DE SAUVEGARDE DE  
MÉMOIRE LITHIUM PRIMAIRE (DIOXYDE DE MANGANESE)  
QUI DOIT ÊTRE TRAITÉE CORRECTEMENT. ENLEVEZ LA  
PILE DU PRODUIT ET PRENEZ CONTACT AVEC VOTRE  
AGENCE ENVIRONNEMENTALE LOCALE POUR DES  
INFORMATIONS SUR LES MÉTHODES DE RECYCLAGE ET  
DE TRAITEMENT.